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The study explored how extension personnel in Pakistan and the United States are selected and trained. Criteria for selection training curricula, areas of specialization, entry into professional practice, conducting of extension work, and extent of inservice training given to overcome problems and difficulties, were studied. Suggestions for improvement of training in Pakistan are made where applicable. A brief description of the geography, village people, and problems is provided. A need for improvement was identified for such areas as practical training of agents, youth work training, research, counseling services, provision of graduate work, cooperation between extension training institutions and field departments, and training in extension education methods and human relations. (pt)

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SPECIAL PROBLEMS
REPORT

TRAINING OF EXTENSION PERSONNEL IN PAKISTAN AND THE UNITED STATES OF AMERICA

Submitted by

GHULAM SUBHANI KHAN

In partial fulfillment of the requirements
for the degree of Master of Extension
Washington State University
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The instructor appointed to examine the Special Problems Report of GHULAM SUBHANI KHAN finds it satisfactory.

Approved E. J. Kreizinger

Date 6/1/65

AUTOBIOGRAPHICAL SKETCH OF AUTHOR

The author was born March 24, 1927, at Basti Sheikh Darvesh, a suburb of Jullundur City, India. Later, in 1947, the family migrated to Pakistan and settled in Lahore, West Pakistan.

The author attended grade school in Basti Sheikh Darvesh and graduated from the Government High School, Jullundur City (India) in 1942. The same year the author joined the Punjab Agricultural College, Lyallpur, wherefrom he did his Bachelor of Science in Agriculture in April, 1946.

The author started his graduate work in the field of Horticulture at the Punjab Agricultural College and Research Institute, Lyallpur, in September, 1946, and earned his Master of Science in Agriculture Degree in Horticulture in September, 1948.

The author started his service career as a Research Assistant in the Fruit Section of the Punjab Agricultural College and Research Institute, Lyallpur, in the Provincial Department of Agriculture in February, 1949, and worked in this capacity at different Research Sub-Stations until December, 1955, when his services were lent to the Provincial Community Development, commonly known as the Village Agricultural Industrial Development Organization, commonly called Village AID Department.

During his service with the Village AID Department as Instructor in Horticulture and Community Development at the Village AID Training Institute, Lyallpur, West Pakistan, the author was selected for training abroad in 1958 for a period of six months in the field of Agricultural Extension and Community Development. As a trainee, he toured Jamaica, West Indies, United States of America, and the Philippines, from January to August, 1958.

At the termination of the Village AID Organization in 1961, the author was transferred back to his parent department, i.e., the Department of Agriculture, and continued his service there. Later, in February, 1962, the author joined the newly established West Pakistan Agricultural University at Lyallpur as Lecturer in Agricultural Extension and taught until January, 1964, when he was selected for the second time for additional training in the United States of America in the field of Agricultural Extension on an AID/WSU scholarship in the Inter-University Exchange Program.

The author was admitted to the Graduate School, Washington State University, and started his Master of Extension program in February, 1964.

The author was married in October, 1958, to Nuzhat Mahmood.

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CHAPTER I

INTRODUCTION

Background Information

Creation of Pakistan

The Nation of Pakistan was carved out of British India and is composed of the Muslim majority areas of that country. The Muslim majority areas consisted of the old provinces of the Northwestern Frontier Province, Baluchistan, Sind, the western portion of the province of the Punjab and the eastern portion of the province of Bengal. These, with the later addition of the larger part of the District of Sylhet from Assam formed Pakistan. The new country consists of two separate parts--West Pakistan, with an area of 310,403 square miles and a population of 42,880,378 people and East Pakistan, an area of 55,126 square miles and a population of 50,840,235 people. The country's two parts are separated by over a thousand miles and in between lies the Republic of India.

Pakistan came into being on August 14, 1947. After years of foreign rule the people became independent. With political freedom came a great many problems and responsibilities.

At the time of Pakistan's creation, there was almost complete disorganization, a lack of funds, a shortage of experienced administrators and technicians, a lack of banking, industrial and commercial organizations, of training and research institutions. Above all, there were ten million almost destitute immigrants to be cared for. Besides, West Pakistan has, in general, a hot, dry climate in which agriculture can only be developed and expanded through expensive irrigation systems from canals or wells; East Pakistan lies in a sub-tropical high rainfall belt and has a population density among the highest in the world, 922 persons per square mile. The new country was thus faced with the immediate task of integrating the different economies of two geographical entities.

Socio-Economic Conditions

Most of the people of Pakistan (85%) live in the villages. They are people who produce the food and fibre that feeds and clothes the whole nation. The production per acre per person is very low, the production per person is even lower. Low production, within our country, means that there is less of the essentials to be shared among all of the people.

The reports on the sociological and economic aspects of life in six selected villages of Lahore District made by Slocum et al. (38) and Akhtar and Arshad (1), respectively, represent the circumstances and problems of Pakistani villages in general and West Pakistan villages in particular. There may be variations and differences in life as it is lived in villages from region to region in West Pakistan as well, yet these findings do give a broader view of the socio-economic conditions met within West Pakistan, East Pakistan and Pakistan as a whole. Therefore, the mention of a few of the findings of these studies would be of interest to draw an over-all picture of the ways of life in Pakistan.

Sociological Aspects

> The population of the sample villages was increasing because the birth rate was higher than the death rate and out-migration was negligible. During the year 1956 the population increase due to the excess of birth over deaths was 2.7% in these sample villages. About 83% of the area owned by the villagers was under cultivation at the time of the study and little of the remaining area was available for cultivation.

At the time of the study there was not much demand for educational opportunities or facilities at the village level. In fact, there seemed to be considerable opposition to secular education. This was particularly true in the case of female children. The majority do not understand that education has any useful function. Reading and writing are not functional in their lives.

About the housing and home facilities met within these villages under study, it was reported that there were three principal categories of houses. First and by far the most numerous (84%) were the Kacha houses. A Kacha house is a house made of mud and other local materials such as thatch, sticks and reeds. The second type of house (4%) occupied by relatively wealthy families are classified as Pucca houses. These houses are constructed of brick and have wooden doors and glass windows. The remaining houses (12%) are partly Kacha and partly Pucca. They are occupied by middle income people.

Nearly all the houses in these villages have a small courtyard which is used as supplementary living space. Meals are frequently prepared in the courtyard.

Most of the houses are very small; 73.5% have only one room. The Kacha houses require frequent reconstruction. Most of the houses have only one door and less than one-fifth have windows.

The number of persons per room is relatively high, averaging 5.3. In addition to human occupancy a few villagers keep their cattle in their houses during the winter.

The home facilities used by the villagers are very meager. The only furniture found in most of the houses consists of beds, (charpies), and an occasional chair.

Only 12% of the houses are equipped with separate kitchens. Two-thirds (66.6%) said that they cooked outside both in winter and summer. In most cases where cooking is carried out in the house, there is no arrangement for the escape of smoke. Only 1.2% of the houses have chimneys in the kitchen. This means, of course, that whenever cooking is carried on within the houses the air is filled with smoke. The village women use cow dung cakes as fuel for cooking. This is not entirely a matter of choice since there is very little other fuel available to them.

Food is served at the place where cooking is done to save the services of a bearer. Usually the head of the family is served while sitting on a bed (charpai). No cutlery is used for most purposes but spoons may be used with a sweet dish. The villagers have brass or aluminum plates, cups and glasses for daily use. Guests may be served on chinaware at tables, if such items are available.

The number of houses which have bathrooms is very small, comprising only 17.3% of the total. In other cases a portion of the courtyard is screened off for bathing purposes by a "charpai" etc.

Only 11.3% of the houses have separated latrines. Where present, these are situated in a corner of the house. The common practice, with respect to the disposal of human wastes, is to go out into the fields.

With respect to water for household purposes, most of the villagers (92.7%) report that they use water from the village wells. A few use canal water, and a few others have wells or hand pumps in their compounds.

There is at least one pond in every village that was studied. This, together with open drains, provides a breeding place for mosquitoes and various disease germs. The difficulty of keeping the village clean is increased by the custom of keeping domestic animals either within or adjacent to the house.

Houses are not screened and during certain seasons of the year flies are plentiful. These insects often carry disease germs a considerable distance.

There is a dispensary in one village. Four villages are located within three miles of a town which has the dispensary. The remaining villages are located five miles from a town with a dispensary. However, most of the people say that they rely upon home treatments insofar as possible.

With regard to the food habits of the villagers, the studies found that there is little variability in the food patterns of individual villages and no significant differences are observable in food combinations by days of the week.

The quality of the food varies with the differences in the economic position of families. Yet, in general, the consumption patterns are characterized by emphasis on cereal grain, especially wheat. After cereals, comes milk, vegetables, ghee (butterfat), and sugar. Non-cereal proteins like meat, fish, and eggs contribute very little to the diet of most families.

Under the prevailing social values in the villages, the elders of the family must be respected and obeyed by the younger members. Deviations in this respect by grown sons or daughters-in-law may cause considerable adverse comment about the defaulters.

Although complete segregation of the sexes would be impossible in a restriced area such as an agricultural village, the relationships between the sexes are very closely regulated in accordance with the strict moral standards of the villagers.

Strict segregation of the sexes is practiced, beginning shortly before the boys and girls reach marriageable age, which, in these villages, may be as early as 13 or 14 for girls and 17 or 18 for boys.

The social ideals of the villagers demand that a family must remain united, whether the relationships within this unit are wholesome or unwholesome. This is particularly true of "respectable" people. Divorce and separation are strongly disapproved.

As in the case of husband and wife, unity among other family members, i.e., parents and children or brothers and sisters is also desired and emphasized.

In terms of intimacy of social relationships, the extended family comes next to the immediate family. An extended family consists of all the related family units and is characterized by a strong "we-feeling." It plays a prominent role as an agency of social control.

With regard to caste and sub-caste (Baradari) relationship, these studies reveal that as a result of the long contacts with Hindu culture, caste has become a regular feature of the social structure. Castes represent more or less fixed prestige levels assigned to individuals by virtue of their birth. The highest status in the villages, as in the cities, is given to Syeds, who are commonly regarded as descendants of the Holy Prophet (Peace be on Him). Next come the land owning castes like Araeen, Rajput, and Jat. The occupational castes like Julaha (weaver), Mochi (cobbler), Dhobi (washerman) have a low status and castes like Mirasi (village bard) and Musalli (converted sweepers), are placed lowest in the social scale.

Relationships with neighbors, who, in a majority of cases are also relatives, are generally close and informal. Men have frequent contacts with persons other than those of their neighborhood but the contacts of women in every day life are primarily confined to women and children within the neighborhood. Contacts outside the village are very limited.

There are virtually no formal voluntary groups of any consequence. Cooperatives had been attempted in two villages. Both failed.

Marriage is an important event of the lives of villagers. It involves directly not only the two individuals who get married but also their immediate and distant relatives.

A wedding is an occasion for rejoicing and feasting. Gifts are exchanged among relatives. The girl is given a dowry by the parents to provide her a start in life.

A wedding required large expenditure by the two families and consequently it is frequently a source of much debt. Similarly, feasts and exchange of gifts at birth celebrations, circumcision ceremonies, and funerals, entail much expenditure by the family concerned.

Religion is a dominant influence in the lives of the villagers. More than 85% in the sample villages were Muslims, the remainder being Christians. Among the Muslims, 89.2% were Sunis, 9.4% were Shias, and 1.4% belonged to other sects. The sample families among

Muslims have a very very strong faith in God. A few believe that fate could be changed to some extent by personal efforts. Most of them are of the opinion that whatever has been ordained for them will be fulfilled regardless of their wishes or efforts.

The fundamental division of labor among the villagers is in terms of men's work and women's work. Men are responsible for earning the family living while women are responsible for household tasks and child care. Deviations from this established pattern are not favored.

Agriculture is the primary source of livelihood for the villagers. Consequently, agriculture is considered the most important occupation. Within the agricultural community social rank is differentiated according to tenure status and the size of land area owned or operated. The larger the land-holding the higher the social rank. Thus, the landlords constitute the village elite. Owner-cultivators come next and last are placed the tenants.

Government servants rank next to agriculture. Even petty government servants have considerable prestige in the villages.

Business, unless it is carried out on a considerable scale, is not appreciated by the villagers. Those who engage in business usually have a fairly low position. The lowest position is that of the Moeens, or village servants.

Economic Aspects

Regarding land tenure, size of holdings, and fragmentation of land holdings, the studies point out that the number of total cultivators is about 52.0% more than that of owners. Only 1.34% of the cultivators cultivate more than 35 acres of land, while about 16.0% cultivate less than one acre.

Eighty-one and four-tenths per cent of owners own less than ten acres each while the corresponding figure for the cultivators was 64.52%. These owners and cultivators have only subsistance holdings as defined by the Land Reforms Commission for West Pakistan, January, 1959 (34). Only a very small percentage of holdings (3% cultivators, 4% owners) fall into the category of economic holdings (50 acres) as defined by the Commission.

The fragmented nature of many of the farms causes many obstacles in the efficient carrying out of the agricultural operations like irrigating, plowing, manuring, fencing, and general care of the crops and their protection against pests and diseases. This causes a waste of time, effort, and resources (34).

Relating to the patterns of inheritance of land, the study shows that the problems of fragmentation and sub-division arise in all laws of inheritance.

Further, the study observed that the lack of irrigation water is one of the major problems of the farmer. All farmers are anxious to ensure its regular supply. In addition to the existing facilities of canals and wells, sinking of more tube-wells would go a long way toward solving this problem.

The study suggests the need for extensive surveys with regard to farm practices followed by farmers. The operations followed by some of the progressive farmers can serve as a useful guide for the Extension Service of the area.

According to this study, the main reasons for the farmers not practicing the improved methods of cultivation are, firstly, the farmers do not have improved implements; secondly, the importance of the use of such improved implements has not been fully demonstrated to them; thirdly, the supply of water is inadequate.

The Department of Agriculture has done useful work in standardizing the methods of sowing for the important crops. It is unfortunate that these valuable findings are not put into practice by the farmer. Observations showed that the Extension Service was not effective. The knowledge of the improved methods of cultivation is not imparted to the farmers; and to those who have knowledge and the desire, the necessary supplies are either not readily available or are not obtainable.

Another operation which is neglected is the interculture of the crops. It is recommended that the Extension Services should lay more emphasis on thorough and clean cultivation of crops. Large scale demonstrations of better methods of cultivation should be given with indigenous as well as improved implements. The demand for improved implements thus created should be met promptly. To encourage and to create wider interest, clean cultivation competitions should be held. This could help to increase the yield appreciably.

Farmers generally know about most of the approved major farm crops. There is also a general awakening about the use of farmyard manure and commercial fertilizers. Manures and fertilizers are not easy to secure, therefore, there is always a deficiency of plant nutrients in the fields.

The yields per acre for tenant-farmers as compared to owner-farmers were definitely lower for all crops. This may be because the cultivator mostly lacked the incentive to produce beyond what would suffice for the needs of his family, as the landlord took away half of what the cultivator produced. In other words, the lower crop yields per acre for the tenants may be attributed to his poorer economic conditions.

In connection with the importance of livestock to the country whose economy is largely dependent upon agriculture, the study shows that it cannot be over-emphasized. It provides draft power to millions of cultivators for various field operations and for transporting the agricultural produce to the market. Livestock products like milk, eggs, meat, butter, and ghee are extensively used for daily consumption. Other products like wool, hides and skins are used as raw materials in domestic industry or are exported. The animal's excreta are used as manure and fuel.

Among the draft animals, farmers usually use the bullocks mostly of the breeds of Dajal, Hisar, and Dhanni. However, very few farmers use improved breeds of bullocks. In addition to bullocks, the male buffaloes, camels and donkeys are used as draft animals.

The buffalo is the most commonly source of milk and milk products among the cultivator families. The use of milk and milk products is a valuable element of the rural diet. The other milk animal which is used by families is the cow. These cows, however, are not of the high milk producing type. They are maintained mainly for breeding bullocks rather than for the purposes of producing milk.

Income of the cultivators in these villages is found to be very meager. The sources from which the families of cultivators draw their incomes are, more or less, similar. The major portion of the gross annual income of the families in the six selected villages is derived from the sale of crops. The rest is contributed by other sources such as the sale of milk and milk products, employment off the farm, various types of cottage industries and other miscellaneous sources. As the holdings of the sample cultivators are mostly very small and their means extremely limited, they are in most cases engaged in mere subsistance agriculture.

In the present study, observations were made regarding (1) the extent of indebtedness, (2) the purpose of debt, (3) the sources of credit, and (4) the nature of security demanded and the prevailing terms of borrowing. It was concluded that indebtedness tends to be higher among peasant owners than among tenants. The highest total debt per family is by the peasant proprietor-cum-landlords (those who own and cultivate land and also have tenants on their extra land). Expenditure on unproductive items such as social ceremonies, litigation, house building, etc., claims the lion's share of the total borrowings. It is usually incurred for reasons of ostentation, prestige or social status. With the disappearance of the Hindu Bania (money lender) who before partition was the mainstay of the agriculturist as the supplier of credit, the needy cultivators mainly depend upon their relatives and friends for the fulfillment of their credit needs. Generally, the chances of a person seeking a loan of money depends upon his credit-worthiness as determined by his economic position. Land is considered the most readily acceptable form of security for loans in the rural areas. But when it comes to borrowing from friends and relatives this rule does not apply in its entirety. As most of the loans are taken from friends and relatives, the debtors are not clear in their minds about the periods within which repayments are to be made. Neither are there, strictly speaking, any clear cut terms of borrowing except an understanding between the creditor and the debtor which is considered enough.

Farmers need extra labor; sometimes permanent laborers and at other times casual labor when he feels shortage of family labor, expecially at the time of extraordinary pressure of work in the harvest of wheat, cotton picking, transplanting and harvesting of rice, making Gur and Shakkar (country sugar), etc. These laborers are paid either in kind, cash, or both.

Agriculture is the main industry of Pakistan. Since 85% of the people depend for their livlihood on farming, the resultant pressure on available land is so great that holdings are becoming progressively smaller and uneconomic. In West Pakistan the average holding is not more than five or six acres, whereas in East Pakistan where the density of population is still greater, the size of the average holding is reduced to about two acres. The first consideration with every farmer is to grow his own food. He will also grow a little extra food or a small cash crop so that he may be able to buy consumer goods which he cannot produce himself. In normal circumstances, this type of farm economy, delicately balanced as it is, ensures adequate supply of food, mostly in the form of cereals, and a small cash income to pay off debts, which are inevitable because of the need for obtaining supplies and services not available in the village. Occasionally, however, this balance is disturbed by some natural calamity like floods, hail storms, or an epidemic among the livestock. In that event, the farmer has to resort to heavy borrowing from which he may not be able to absolve himself during his lifetime.

Whether in debt or out of it, the farmer does not enjoy a high standard of living. He has a very simple home, usually having one room with about one-fourth having two or three rooms which he also uses as a storehouse. His food, though adequate, is lacking in variety. Fortunately, in Pakistan the majority of farmers are accustomed to keeping a cow or a buffalo which supplies milk for the family. This habit of taking milk and milk products helps to balance the cereal diet to a considerable extent. Fruit is generally unobtainable in rural areas except in the villages of the northwestern frontier regions of West Pakistan. Meat is considered a luxury, and forms part of the menu only on festive occasions or when a guest is to be specially entertained. Farmers of the northwestern frontier regions of West Pakistan are, however, heavy meat eaters (36).

The clothing used by the farmers is of the simplest kind. Normally, each member of the family has only one set of clothes which is renewed annually, on the occasion of "Ramzan" (month of fasting), "Eid" or some such festival. Shoes are provided by the village shoemaker who is paid in kind every six months at the harvest of crops. In East Pakistan, farmers generally go barefooted.

The farm, which is the farmer's only asset in life, is in still poorer condition and needs improvement. The farm has been exploited continuously for years and now its fertility is very much depleted. Successive generations of farmers have taken their food and fibre out of the land without giving anything back to replenish its fertility. Most farmers cannot afford to purchase commercial or artificial fertilizers. Farmyard manure is used only in small quantity. Cow dung is burned as fuel, because of scarcity of any other kind of fuel. The farmer may be aware of some of the improved varieties of crops, which give better returns, but the buying of seed of those varieties require ready cash which may not be available. So he uses his own seed saved from the previous crop for this purpose. He knows very little about the methods of controlling insect pests and plant diseases, and even if he does, he is not in a position to put them into practice for want of funds to buy insecticides, fungicides and the relevant equipment. His farm is too small to be mechanized. When farming is done under such conditions, it is hardly surprising that the yields are low and the farmer gets a very poor return from his farm. This creates a vicious circle. The farmer does not use improved cultural practices, so he gets small returns, and as he gets low returns he cannot afford to introduce new and improved practices. This vicious circle will have to be broken before agriculture in Pakistan can make any real progress and headway.

The Food and Agricultural Commission on Pakistan, 1960, in their report (36), remarked:

> ". . . that it can hardly be over-emphasized that the desperately low incomes of the agricultural people, three-quarters of the entire population, constitute one of the greatest handicaps to national development. In the past twelve years per capita farm income has fluctuated between Rs. 180 and Rs. 193.[1] In recent years, it has been about Rs. 185 and has shown no significant trend. In fact, the average per capita agricultural income for the most recent five years is exactly the same as the average per capita agricultural income for the first five years after Independence."

It is generally felt that without industrialization, population pressure on agriculture would increase and this increase would adversely affect the welfare of the people. But the Agricultural Commission is of the view that any sound industrialization must be impressively supported by a vigorous domestic market. In Pakistan, 75% of the people are agriculturally employed. The breadth and depth of the domestic market, therefore, depend upon the purchasing power of these people. Farmers have a pitifully low income and a very considerable part of that income consists of value of food products consumed on the farm. The share of the total income received in cash available for purchase of nonfood products is dismayingly small. It would appear, therefore, that one of the chief objectives to be gained on the way to economic viability would be the systematical improvement of the economic circumstances of the agricultural majority of the population. Improving crop yields and total production will increase total and per capita agricultural income.

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[1] Rupee is Pakistan's currency. Rs. 4.76 makes $1 U.S.

Prior to the Food and Agriculture Commission Report on Pakistan, 1961, Mr. M. H. Sufi, in his report (39), known as the Sufi Report, also emphasized that we cannot have modern industry without the support of a strong agriculture. He stated that agriculture is basic to Pakistan's economy as 75% of the people are directly engaged in agricultural production. Most of them are small farmers. They are the producers of real wealth which is replaced and renewed every year. Besides, a large majority of the town people are engaged in trade industries which are dependent on agriculture. Most of Pakistan's foreign export trade consists of agricultural commodities like jute, cotton, wheat, rice, wool, hides and skins, and oilseeds. With such an importance of agriculture to the country's economy, Pakistan cannot afford to have any policy of studied indifference to the development of agriculture.

Then again there is the question of ensuring adequate food supplies for the increasing population. As regards population, Pakistan is now one of the most densely populated countries of the world, and at the beginning of 1961, its population was estimated at 93.83 millions. The growth rate shown by the 1961 census was assessed at 2.16% per annum. The density per square mile of the country as a whole was 256 persons. The population is increasing with a tremendous speed. Efforts in the direction of better health facilities for all are having the ultimate effect of raising the rate of survival, meaning thereby that there are, as a result, more and more mouths to feed. The food requirements are outstripping the available supplies. This cannot be checked unless we increase the per acre yields of all food and fibre crops, preserve and develop our established cattle breeds to supply work animals on farms and adequate milk and bread supplies in the villages and towns and develop poultry and fisheries to augment food resources and to enrich and balance the diet of the people, both in towns and villages.

Since the establishment of Pakistan, farmers have worked hard under unfavorable conditions, to restore its torn and ruined economy. The farmer is a staunch believer in the private ownership of property and the rights that accrue from it. But to make him a successful farmer, the mere possession of a piece of land for cultivation is not enough. Those who know the submarginal conditions under which the Pakistan farmer lives and carries on his farming would agree that an earnest and sincere effort is needed to pull him out of the morass of poverty, disease, and ignorance. He must be given a chance to improve his farm, home, and village so that he can lead a contented, more satisfying and fuller life.

To do proper farming in order to improve his condition and that of his environments, the farmer, in addition to the possessing of land, needs at least two other things:

1. Access to credit on fair and reasonable terms, and
2. Availability of scientific and technical information relating to agriculture which can be put to practical use on the farm.

In the present report we are more concerned with the second aspect.

Diffusion of Farming Information

Presently, it is one of the functions of the Provincial Departments of Agriculture and Animal Husbandry to supply useful and practical information to farmers. They have been discharging this responsibility over a period of years through their field staff. In between, i.e., from the years 1952-53 to 1961, their job was also entrusted to the VILLAGE AGRICULTURAL INDUSTRIAL DEVELOPMENT ORGANIZATION, commonly known as the Village AID Programme. This organization carried on an intensive demonstration work in selected areas, each comprising approximately 150 villages. The villagers, in cooperation with trained village workers, were to determine specifically what they needed to do and could do in order to improve their condition relating to agriculture, animal husbandry, health, sanitation, education, cooperation, etc. These areas, which were called the Project Development Areas, ultimately were to spread all over the country.

Unfortunately, it cannot be said that the efforts of the Department of Agriculture, Animal Husbandry, and the Village AID Organization have met with any spectacular or even substantial success, except, perhaps in one direction, viz., the introduction of some improved varieties of farm and garden crops. Incidentally, the Village AID Programme was terminated in 1961 because the community development work was entrusted to a new department called the Department of Basic Democracies.

Although in each of the two Provinces of the country, East Pakistan and West Pakistan, there is an enthusiastic group of agricultural technicians in the Departments of Agriculture and Animal Husbandry, they have not been able to substantially change the agricultural practices traditionally followed by our farmers from generation to generation (39).

A progressive outlook among agricultural scientists and an attitude of indifference to change and suggested improvement on the part of our farmers, is the curious paradox of the agricultural situation which cannot be overlooked. To bridge this gap between the scientist and the farmers we need an Extension Organization properly staffed with well trained and efficient personnel. It is quite certain that an Extension Service manned with properly trained staff can bring about radical change in the outlook, the farming habits, and the living conditions of farmers.

Although Pakistan, as a result of partition, was denied access to a greater part of the existing scientific and technical information, yet, in many fields sufficient information is available in institutions and with the scientists who have toiled through years in research and experimentation. Attempts are being made in both the provinces to organize agricultural research on sound lines. Technical assistance programs of the F.A.O. and other foreign aids agencies will add considerably to the knowledge and information already known by technical advisors. All this aid and assistance will be of no avail unless the means and ways for the dissemination of this information among the farmers for putting it to practical use on the farms are not strengthened.

The Problem

To make progress, Pakistan's farmers must be helped to loosen and throw off the iron grip of conventionalism and substitute for it modern ways of thinking and doing. Education and training of villagers must uproot traditionalism and seemingly unchangeable forms.

Technical knowledge for making great strides forward is there. The great problem is to get the technology effectively applied. In this lies the solution to Pakistan's major rural problems. Each villager ultimately must make this application of technology to his own problems, in his own situation and in his own way. He must be helped to learn to know how to put this knowledge to work for him. He must be stimulated to action in ways so sound that he will harvest satisfaction from his new ways of doing things and of living.

To promote development and progress requires front line workers who can effectively advise primary groups at the village level and provide supporting services from higher levels. They constitute the connecting link between the people and the institutions created to advance economic and social change. Upon the character, quality, philosophy, training and skill of these workers largely rests the success of all developmental programs. The quality of personnel and their training is the most potent force in any institution, and consequently, the most important element to be dealt with properly and guided wisely. The success or failure of programmes for promoting change, like that of Extension Education, lies in the hands of the personnel manning them and will be determined by their ability. For these reasons, proper selection and training on a continuous basis of these functionaries must be recognized as the heart and nerve center of the entire Extension program.

The central action required of Extension workers is to help people and communities to want desirable change and to take proper action to attain it. This requires methodology consisting of a synthesis of experience in human relations appropriate technical knowledge, scientific spirit, skill in the methods of Extension Education, faith in the ability of people to learn to help themselves and a keen sense of mission.

The Extension worker can, if he has acquired skill in the use of proven Extension methods, educate village people about their problems, get them interested in examining new ways of thinking and doing and help them try out innovations so they can decide for themselves if the new is superior to the old practice.

To be effective in the use of Extension methods, the Extension worker must know about proven Extension methods, how to use each method properly and for what specific purpose a given method or combination of methods should be used. By being trained in the use of Extension methods is meant being able to apply effectively in his day to day work appropriate extension methods in the right way.

It is the function of an Extension worker to get the villagers concerned first about their problems and second to want to solve them. People must, through Extension Education, be helped to learn how to solve their problems.

To be able to work effectively in the process of educating people to want to change and helping them make changes, requires thorough training of

Extension workers in methods and techniques of helping village people as families, as village communities, and as social groups in planning and executing programs for development.

From the above, it becomes evident that the Extension worker occupies the pivotal position in the entire structure of Extension Service and it can be said precisely that:

a. he has to serve as the stimulator, the catalyst, the sparkplug, etc.,

b. he is the surveyor, the analyst, the planner and organizer and the coordinator,

c. he is expected to eradicate evil, educate people, change their ways of thinking and behavior, and bring light and prosperity to the rural masses (7, 37).

To perform all this, he should be equipped with all the Extension tools and human relations skills, i.e., he should have proper training. So in this special problem report on "Training Extension Personnel In Pakistan and the USA," we shall examine how the Extension workers are presently trained in Pakistan, how their training compares with that of American Extension personnel and what improvements can be suggested in training of Extension personnel in Pakistan.

Importance of the Problem

The special problem report on "Training of Extension Personnel in Pakistan and USA," would bring to light on what criteria the selection of Extension trainees is based, what curricula they are required to cover during the training period, and how they are trained to become full-fledged Extension workers. It will be noted also what areas of specialization are provided in the curricula. After the pre-service training, the way they enter the profession will be discussed. During the service tenure, how Extension workers conduct Extension work, what difficulties and problems they experience and what kind of in-service training is imparted to them to overcome these problems and difficulties.

Presently, Extension workers of different levels are being produced in Pakistan. Usually, the Extension workers of different levels are trained in different kinds of institutions. Location of these institutions, curricula and the training facilities provided therein will be described briefly. The number of workers trained by these institutions every year would be compared with present and future needs of the country.

The Extension training programs being followed in Pakistan will be compared with those of the USA to see what deficiencies are there in the former and how they can be covered by adding more courses to the existing ones according to the needs and requirements of the country.

The history and development of agricultural education in general and Extension training in particular, will also be given. On realizing the acute need for the development of agricultural education, two agricultural universities, one in each wing of the country, i.e., East Pakistan and West Pakistan, have recently been created. Their present activities relating to the training of extension workers extension specialists, research scientists, etc., and their future plans pertaining to the above will be reported.

All this discourse would be a source of help and guidance for meeting the country's future training needs in the field of Extension Education. This information would provide food for thought about further improvement of the training programs.

CHAPTER II

REVIEW OF LITERATURE

Need and Purpose of Training

At the heart of the educative process is the student, but he cannot go far in his quest for knowledge without some kind of teacher. This fact has always been as true of the education of adults as of children. The conscious effort of individuals to improve themselves, the sense of mission which causes leaders to take their message to others and the collaborative effort of groups to increase their understanding are familiar themes throughout recorded history. But in the present century, the effort to provide adult education has grown into a much more highly organized movement, and the location and training of capable and inspiring leaders has emerged as a central problem which has had to be solved in countless ways.

Extension education is today a significant and popular educational activity in the United States. Extension programs of various types are integral parts of the total program of many institutions of higher education. Extension programs also are important aspects of the whole field of adult education (19).

Most adult learning, Houle (21) believes, takes place spontaneously and naturally, as men and women decide to learn something and proceed to do so by their own efforts. Whenever adult education takes on social form, however, two groups of people are differentiated: those who accept responsibility for providing focus and direction, and those whose activities are thereby shaped and led. This duality may have the patterns of the teacher and the student;

the leader and the participant; the counselor and the person counseled, etc. Arbitrarily the first party in each of these may be given the generic term "leader" or "educator of adults." It is in preparing such a person for his role that the need for adequate training arises.

If the Extension worker, as an adult educator, is to be potentially effective in influencing and building up individuals and communities, he has to develop certain qualities and certain competencies upon which to draw while performing his numerous duties in the field. Based on experience, therefore, leading Extension educationists have focused attention on the desirability of inculcating in the Extension workers certain qualities essential in the process of Extension Education. Leagans (25) has propounded that to be an effective Extension worker certain important skills have to be acquired and competencies developed. These include a clear understanding of the role of the Extension Service and how it operates; skill in human relations; knowledge and understanding of technical subject matter appropriate to one's job; ability to plan; ability to do things with one's own hands; ability to classify objectives and state them in a way that they are useful in guiding Extension activity; ability to organize people and things; skill at communications; skill at seeing the relationship between principle and practice; skill at enquiry; ability to provide meaningful learning experiences for the learner; ability to evaluate the program achievements and teaching methods.

Ramchandani (33), discussing the need for a well-trained Extension staff, remarks that reliance on the process of education involving the individual and the community may appear rather utopian in conditions obtaining in all underdeveloped countries where development programs are undertaken that the necessary initiative to stimulate and promote community activities may not be initially forthcoming from the people themselves. Extraneous stimuli may have to be applied to arouse and maintain the participation of people in programs of self-help. He added that in India, the educational process of making rural people aware of their problems and indicating to them ways and means by which they can solve them is being provided by the National Extension Service Agency under the Community Development Program. In this agency, the multipurpose workers--the Gram Sevaks--form the ultimate link with the rural people. They ceaselessly strive to assist the rural people in the educational enterprise through participation in Extension activities. This requires intensive well planned effort in training to create situations in which the functionaries at the village level can develop the necessary qualities associated with their professional tasks of Extension Education. Situations for imparting the necessary knowledge and developing the desired skills should be created in Extension Training Centers.

Training Content

The purpose of training helps in the selection of community development workers and in analysis of their jobs. It also helps indicate the content of training for community development village level workers or community development officers. Miner (28), in connection with the training of community development officers in Kenya, reports that the purpose of their training is to develop self-awareness; to increase the ability to analyze problems and situations; to improve the ability to understand and work with people; to help the Community Development officer help people develop their self-reliance and their abilities to work together cooperatively and effectively; to make more effective the ability to inform people and teach new skills; to improve the knowledge and aids; and to increase the ability to develop, administer, and supervise democratically a sound and effective community development program.

Since the very essence of Extension work or community development, as emphasized by Butt (10), is to inspire and train village people to look to themselves (their leaders, their institution, and their resources) to solve most of their problems, the success of the Extension worker in the final analysis will be judged by his success in getting the people to do the things they themselves now look to other to do for them. Training must, therefore, according to Ensminger (17) and Chitambar (11), be directed toward helping all community development and Extension staff understand the importance of focusing their efforts on helping the village people learn how to do things for themselves, to rely on their own leaders, their own institutions, and their own resources for solutions to their own problems. The training must emphasize the Extension worker's role in the development of village leaders and village institutions. Only when the village has alert, unselfish leaders and a strong cooperative, council of elders, and schools, can it practice self-help.

duSantoy (15) asserts that community development and Extension are an organized professional technique requiring a trained staff. He believes that it is better to leave a position unfilled than fill it with a person of doubtful quality. He further emphasizes that training of village level workers should be of in-service type and given in the field through practical, supervised action. Theoretical instruction may be limited, at least in early training. The worker must learn techniques of community development and adult education. He must learn how to get along with people and how to ascertain their needs. Academic training should be provided for those wishing to advance to positions of senior officer. The probable best training course for village level community development and Extension workers, according to duSantoy, is a combination of a standard social studies syllabus and adult education training.

According to Gray's (18) analyses, the kinds of workers needed for community development and Extension work are village Extension workers; technical specialists; trainers (pre-service and in-service); administrators; and policy making officials. Job descriptions and the competencies needed by each of these category as described by him are (1) Village Extension worker is the connecting link between government and village, and most importantly the initiator of self-help. He must be a generalist and a specialist in demonstrated practical skills and know-how as well as in skill in social technology, i.e., a mixture of informal adult education, rural sociology, human psychology, and cultural anthropology. (2) The technical specialist should have a clear understanding of the village Extension worker's job and be versed in methods of communication, social technology and practical skills in his specialty. (3) Trainers must be specialists in education with training in social technology, psychology, anthropology, sociology, human relations, etc.

That the formal education of Extension workers is so often narrow is due, no doubt, in part, to the fragmentation of knowledge into numerous courses with prerequisites at each turn. It is also due to the average student's short-sightedness, throughout his formal educational experiences, in seeing the values of a better balance between the technical and the literary and scientific. If the Extension worker wishes to grow in balanced development, rather than to take a maximum of the applied courses, Collings (12) asserts, he needs to give thought to wider choices throughout academic study, i.e., from basic physical and social sciences and the humanities. Technology which changes so rapidly will have to be learned and re-learned by constant application throughout professional life. In-service training can best serve to shore up technical competence.

Davis (13), discussing the competencies needed by Extension workers, points out that competencies common to all Extension responsibilities, relate not just to abilities needed to handle the problems people commonly bring to them, but they relate to the desirability of their (Extension workers) analyzing problems and needs and subsequently demonstrating ability to apply such competencies to solving problems.

Even so, he asserts, we cannot expect all Extension workers to have all the competencies needed. The organization must be maintained in which individuals have specialized assignments and specialized abilities. He should seek, through organization, to capitalize on the unique combination of competencies that each staff member has. As we seek the flexibility to utilize effectively each individual's unique talents, we avoid pouring our staff into a few rigid, standard molds. It seems only good sense to utilize each person's capabilities and help him further develop those strengths.

Thus, Davis emphasized that the first and the foremost requirement for all Extension responsibilities is the need for technical competence, i.e., within the program areas of Extension everyone must be an expert in something --have special insight in some field needed by and important to clientele.

Houle (21), with regard to training of Extension workers or adult educators, maintains that since organized adult education is still in a relatively primitive state, it does not have such complete systems as have been developed for the preparation of teachers or administrators of childhood education or for such established professions as law, medicine, or the ministry. Any comprehensive plan calls for the use of certain major procedural steps: (1) the definition of the traits of the successful practitioner; (2) the recruitment and selection of promising candidates; (3) the training of these people in such a way that they will gain competence in the duties they are expected to perform (this is usually called a "pre-service training"); (4) the adjustment of the new worker to his first position ("induction training"); (5) the continuing education of the worker to keep his capacities at a high level, to equip him with new knowledge, or to enable him to meet new responsibilities ("in-service training").

Houle further points out that the most important single influence on the training of educators of adults since the end of World War II has been the study of group behavior. Gradually the incorporation of group concepts or group techniques into virtually all training practice in adult education has been effected. It is hard to find any training program in this field which had not been influenced, however subtly, by the group dynamics movement.

Programs of improvement like those of community development and Extension are sometimes rendered ineffective because of failure to take account of what the people specifically value. The worker must be able to discover and understand the limitations, taboos and cultural values related to each phase of his program into the pattern of daily living of the people with the least disruption. For this, Moncur (29) suggests that to provide an understanding of the customs and culture the workers training program should include a study of the historical background, customs and geography of the country, how to develop rapport with informants and to develop personal relationships and friendships.

Regarding the curriculum for the training of Barrio Workers (village level community development workers) in the Phillipines, Kelsey (22) reports that after long discussions they came up with a curriculum that included agriculture, homemaking, rural sociology, Extension methods of teaching, health and sanitation, government, group dynamics and field work. Much of the work was elementary and of the nature of a survey course to familiarize the student with the field more than to expect to make an expert of him in a short time.

The tendency to get everything into such a curriculum should be checked.

Aiken (2) and Ben (8) in New York, observed that the most effective agents used recommended education and organizational procedures, believed in greater participation by the people, enjoyed better vocational adjustment and were more likely to have had graduate training. In Texas, Mathews (27), in one of his studies measured the training needs of the agents with regard to knowledge, skill and attitude and noticed that the county agents attached more importance to training in the social sciences than to any other area.

In India, Rahudkar (32), while locating the relationship of certain factors to the success of village level workers, noticed that those village level workers who had passed the matriculation examination were included in the most effective group; those who had not passed were in the least effective group; the graduate village level workers were mediocre. The village level workers with an aptitude for social work were slightly superior to others. The persons selected from the Agricultural Department as village level workers gave better performance than those selected from other departments. Those having previous experience as teachers scored higher than others. The village level workers tend to show better performance as they put in more years of service in Extension work.

Criteria for Selection

Kelsey (22), while discussing some problems of training of multi-purpose workers for community development work in the Phillipines under the Presidential Assistance Program of Community Development, emphasized that before getting to the training job, there must be some kind of recruitment. It is important that some evaluation of prospective employees be made prior to employment. In the Phillipines, he remarked, that they could start with college graduates. The next question is what kind of person to look for, what motives should he have, and what real abiding interest does he have in the rural people? Does he have a record that shows such interests before this training program came to his attention?

In the Phillipines, Kelsey adds, the Presidential Assistant for Community Development appointed a screening committee to interview candidates and to recommend those who seemed to have promise as trainees in this new multipurpose job.

When a training program is developed it is for a specific job. It is important that the persons in the organization responsible for selection and training of personnel agree on the requirements for the position. If the job analysis for the person to be recruited, trained, and then sent to the field, has not been already provided, Kelsey advises that it is well to draw up one (23, 24).

With regard to the criteria for selection of village level workers for community development and Extension programs in developing countries, duSantoy (16) emphasized that they should come from or be at home in a rural environment. They should have sufficient age and experience so that village elders do not tend to give them little attention or respect. They should be physically sturdy to travel on bicycle or foot and live under rough conditions. They should be good at human relations with rural people. Besides enthusiasm, energy and drive, a logical mind is needed. Sufficient education is required, but not so much that a barrier between worker and the people develops. They should be generally acceptable to the vast majority of factions and groups in the area and not too closely identified with any one group. A carefully selected local person is advantageous and usually outweighs the dangers of local pressure and affiliations. The worker must be able to do manual work. Workers must be sincere and willing to practice what they teach. Personal qualities and practical abilities often count more than education, as training in specific subject matter can usually be given in "in-service training."

In the village AID program of Pakistan, while selecting the village level workers, special care was exercised because of their pivotal position in the whole program. Shamim (37) described this young man to be the thin edge of the wedge who breaks ground, prepares the land and sowed seeds of information among the rural people. Before giving him training in different fields, Shamim reports, he was adjudged to have suitable age of 20-35 years, adequate education up to middle or matriculation standard, right types of attitude and aptitude for learning new skills and imparting them to rural people.

CHAPTER III

HISTORY AND DEVELOPMENT OF AGRICULTURAL EDUCATION AND EXTENSION TRAINING IN PAKISTAN

Before dealing with the history of Agricultural Education in Pakistan, it may be mentioned that Extension Education had never been treated separately from general Agricultural Education in Pakistan. Diffusion of knowledge about farming was achieved through indirect methods. Only at the Agricultural Colleges, in addition to the teaching of the Agricultural Sciences, the students in their final stages were only nominally told how they should pass on the scientific information relating to agriculture to the rural communities. Meaning thereby that the goal of extending farming information was achieved through different other indirect techniques. Sometimes it was done by introducing subjects of agriculture in the school curricula and at other times by training Extension-cum-vocational type of workers by the different beneficiary departments like Field Assistants by the Department of Agriculture, Stock Assistants by the Department of Animal Husbandry, Farm Managers by the Cooperative Department, and Foresters by the Forest Department. Therefore, the history of agricultural education as a whole would encompass the development and history of Extension education.

Agriculture was added to the school curricula with a view of imparting information on farming to the farmers indirectly through their children in school on the one hand and making the children or the prospective farmers better informed about scientific methods of farming on the other. Also, the field level workers of different departments who got training in their respective fields of agriculture, animal husbandry, cooperation or forestry, pass on the relevant information when coming in direct contact with the rural people while performing their official duties.

Therefore, the history of agricultural education as a whole would include the development and history of Extension education as well. With this in mind, mentioning of the general history of agricultural education would be of use and interest.

Agricultural Education at School Level

The history of agricultural education has its origin in the pre-partition period of the Indo-Pakistan subcontinent. In the year 1917, an All-India Conference on Agricultural Education was held at Simla. This Conference strongly recommended the introduction of agricultural education in the schools and made definite suggestions on the methods of its introduction. Subsequently, two provincial conferences were also held in the former undivided province of the Punjab. The then provincial government accepted most of the recommendations of these conferences and took concrete steps towards an early introduction of agricultural education in the schools.

Primary stage:--At the primary stage, i.e., grade 1 to 4 in the schools, the subject of agriculture was introduced in the shape of nature study as an essential part of the total program. Text books were revised. The training program of teachers of primary grades was also changed accordingly.

Middle schools:--The middle schools (from grade 5 to 8) during those days were classified as (a) Vernacular middle schools, and (b) Anglo-Vernacular middle schools. The aim of agricultural education in the former was considered to be materially different from the latter. The students of Vernacular middle schools for the most part were drawn from the agricultural classes of the rural areas and mostly concluded their education on leaving the schools. A complete and self-contained course in practical agriculture was quite appropriate to equip them to work as practical agriculturists. But the course for Anglo-Vernacular middle classes was, as a rule, to be followed by two years study in high school. A course complete in itself in practical agriculture, therefore, could not suit their requirements. In these schools the course in every day science was converted into that of agricultural science and the subject was made compulsory.

"In-service" training of one year's duration, in agriculture, was started at the former Punjab Agricultural College, Lyallpur, for the trained Senior-Vernacular teachers of the Education Department. Farm land, on an average 3 acres, was provided for each school. As an inducement to the teachers who taught agriculture in these schools, a monthly allowance of Rs. 10 was awarded.

High schools:--At high school level (grade 9 and 10), a majority of students were those who got their education in Anglo-Vernacular middle schools with no intention of going back to the farm. They were not likely to appreciate a course in practical agriculture. It was, therefore, decided that teaching of agriculture in high schools must not be purely vocational. The subject of agriculture was made optional.

For this level of teaching of agriculture, graduates in agriculture were recruited yet adequate arrangements for their training in pedagogy were not provided. Instead of arranging for agricultural education in every school some agricultural centers were opened in towns for two or more rural high schools. The students from different schools would attend these centers for instruction in agriculture. The rest of their subjects were taught to them in their own schools. Five acres of land were attached to each of these centers.

Fate of the Plan:--Considerable progress was made in the introduction of agricultural education in the middle schools. But in view of the high cost of land and the financial stringency it was later on decided that instead of three-acre farms, small garden plots up to a maximum of half an acre could be used with equal success for practical work in agriculture. Bullocks were not required and implements were to be few in number and small in cost. The teaching of agriculture was subsequently expanded to make it a new subject of rural science which included courses in agriculture, physical geography, hygiene, sanitation, etc. In-service training of the teachers of agriculture at the former Punjab Agricultural College, Lyallpur, was, however, discontinued (42).

Very little progress had been made in the introduction of agricultural education at the high school level. There were many reasons for this failure. Most important of these were the nonavailability of competent teachers, high cost of land, and lack of text books and supplementary reading material.

Agricultural Education at College Level

At the college or degree level, agricultural education in Pakistan was imparted through two kinds of institutions: (1) Agricultural colleges; (2) Veterinary/Animal Husbandry colleges. The whole field of agricultural education imparted through the above two kinds of institutions included some kind of training in Extension methods as well. Although they were not specifically defined and taught as separate and recognized courses, yet the graduate of agriculture or Veterinary Science/Animal Husbandry were supposed to do Extension work in the field in addition to their other routine duties. So, along with the study of different sciences in agriculture, in the final stages, the students were exposed to a few techniques of diffusing farming information amongst farmers. Agricultural education, encompassing some Extension training in the earlier days was the responsibility of the following institutions:

Former Punjab Agricultural College, Lyallpur:--The scheme for the Agricultural College and Research Institute at Lyallpur was initiated in 1902. Administrative approval for the establishment of the college was accorded in 1906 and the college started functioning in 1909. The original area earmarked for the college was only 50 acres, but additions were made to it from time to time. The latest figures of the area attached to the college was 761 acres. The college started in 1909 with a three-year diploma course leading to L. Ag. ("Lyallpur Agriculture"). In the year 1914, the three-year diploma course was changed into a four-year diploma course divided into two parts. Part I extended over the first two years and was devoted mainly to practical agriculture. It was a course complete in itself and qualified men were employed in the lower ranks of the Agriculture Department or as Farm Managers on private estates. A Leaving Certificate was given to those who would leave the college at this stage. Part II extended over the remaining two years and included the scientific training in such sciences as are of direct assistance to the farmers.

In 1917 the college was affiliated to the University of the Panjab, Lahore, and the Lyallpur Agriculture Diploma Course was remodelled to make it Bachelor of Science (B.Sc.) Degree in Agriculture. Two years Leaving Certificates were also continued. In 1923 the college started a program for the M.Sc. (Agri.) and later for Ph.D. Degrees.

The college was a residential institution and the total number of students on the college roles in 1960-61 was 669 in the degree classes, out of which 64 students were working for Doctor of Philosophy (Ph.D.) Degrees. Up to 1959 the college had produced 1,862 graduates, 360 M.Sc. and 5 Ph.D's in the faculty of Agriculture, besides 70 L. Ag's and 305 L.C's.

The courses for the Bachelor of Science in Agriculture (B.Sc. Agri.) degree during the first two years included the subjects of Agriculture, Chemistry, Physics, Mathematics, Botany, Zoology, Land Surveying, English, and Carpentery. The courses for the final two years included Agriculture, Economics, Chemistry, Agricultural Chemistry, Dairying, Agricultural Economics, Botany, Physiology, Plant Pathology, Horticulture, Entomology, English, Agricultural Engineering, and Veterinary Science.

At the successful completion of courses in the first two years the students were awarded a certificate of Faculty of Science in Agriculture (F.Sc. Agri.). In the final years, i.e., third year and fourth year, the students were required to qualify two subjects as the major and two as minors. Out of the two major subjects, Agriculture used to be compulsory. Training in Extension methods was a part of the subject of Agriculture. Thus, every graduate of the college had some training in Extension techniques.

This Agricultural College and Research Institute continued working until in November, 1961, when it was changed to the status of a University. This University, with the name of West Pakistan Agricultural University, came into being on November 1, 1961, with a four-fold function of teaching, research, teacher training, Extension and short courses. Different research and teaching sections inherited by the West Pakistan Agricultural University from the former Punjab Agricultural College, Lyallpur, were transformed into different departments within a number of faculties, a Division of Basic Sciences and an Institute of Teacher Training, Extension and Short Courses. The functions of the last mentioned institute of which Extension training is one of the concerns will be dealt with later.

During the two years that have passed since its establishment, the West Pakistan Agricultural University at Lyallpur has upgraded or added 5-year

B.Sc. (Agric.) course, 6-year Doctor of Veterinary Medicine (DVM), and a Bachelor of Science in Agricultural Engineering (B.Sc. Agri. Engr.). Post-graduate degree programs have been instituted, which cover M.Sc. level teaching in 16 disciplines and Ph.D. level in 10 disciplines. In addition, one-year post-graduate B.Ed. course was inaugurated in November, 1963.

Agricultural College, Tando Jam (West Pakistan):--Starting as an Agricultural Research Institute in 1926 at Sakrand, it had developed into a full-fledged college by 1939. The college was shifted from Sakrand to Tando Jam in 1955. During pre-partition days of the subcontinent, Tando Jam was affiliated with Bombay University. After partition in 1947, it was affiliated with Karachi University. Soon after the establishing of Sind University, the college was affiliated with Sind University. Since the establishment of the college, only one course of B.Sc. (Agri.) had been offered at this college. Teaching and research were under the Principal, but after 1961 research was given a separate entity and a Director of Research has been appointed to control the research work at the Institute.

Here too the subject taught at Faculty of Science (Agri) level and B.Sc. (Agri.) level were almost similar to those taught at the former Punjab Agricultural College, Lyallpur. Students in the final year were exposed to some Extension techniques to help them to know how they would take the scientific information related to farming, to the farmers for its application and practical use when they were employed as Agricultural Assistants in the field. Agricultural Assistants may be considered contemporary to the County Agricultural Agent in the United States.

College of Agriculture, University of Peshawar, West Pakistan:--The College of Agriculture, Peshawar University, is of recent origin. Previously the agricultural classes were attached to Islamia College, Peshawar, and even now F.E.A. (First Examination in Agriculture) classes are still there. College subject matter covered in different courses at the two levels, i.e., F.Sc. (Agri.) the first two years after matriculation, and B.Sc. (Agri.) the final two years, is almost the same as that at the former Punjab Agricultural College, Lyallpur.

Pakistan Forest Institute, Peshawar:--The Institute was established just after partition at the Agricultural College, Lyallpur. Previously the technical personnel required for the Forest Department were trained at the Forest College and Research Institute, Dera Dun (now in India).

In early 1948, the Institute established on the premises of Punjab Agricultural College was shifted to Upper Topa, Murree Hills, where it was housed in vacant military buildings. Due to lack of accommodation at this place, the Institute was shifted to Abbotabad in 1951, where it remained for seven years in a number of rented buildings. The institute was shifted to its present place, i.e., Peshawar, in late 1958, where new buildings had been erected.

Until 1958, the Institute itself was responsible for imparting training and conducting examinations. The two courses being offered at the Institute were previously known as S.F.S. Courses (Senior Forest Service Courses) and Rangers Course. After successful completion of these courses, students received Departmental Certificates of A.P.F.C. (Associate Pakistan Forest College) and P.F.R. (Pakistan Forest Rangers) respectively. The teaching wing of the Institute was affiliated to Peshawar University in 1958 for examinations. Consequently, the names of the courses and name of the degree and diploma awarded after the successful completion of the aforesaid courses have been changed. The Senior Forest Service course is now being called Bachelor of Science with Honours in Forestry "B.Sc. (Hons. in Forestry)" course and degree awarded by the University for the course is known as B.Sc. (Hons. in Forestry), whereas the Rangers Course is known as Diploma in Forestry course and the Diploma awarded for this course by the University is known as Diploma in Forestry.

Subject matter covered in these two courses mainly deals with the conservation of Forests, Afforestation, Forest Development and Management, functions of forests, viz., timber supply, effect on climate, flood control, control of soil erosion, home for wild life, etc. In addition to this, the trainees are taught how to run "Grow More Trees" campaigns, how to stimulate people to protect forests against indiscriminate felling, deforestation, and grazing. This involves certain Extension techniques in which the trainees are taught methods of reaching rural people.

College of Animal Husbandry, Lahore:--The College of Animal Husbandry, Lahore (West Pakistan) was founded in 1882 as the Lahore Veterinary School and was shifted to the existing premises in 1915 when it was renamed as Punjab Veterinary College, Lahore.

In the beginning the school offered a two-year course in Urdu (a local language) to middle-matric-pass trainees. Later, when the school became a college, the two-year course was increased to three years and the medium of instruction was also changed from Urdu to English. The college continued giving a Certificate called G.P.V.C. (General Punjab Veterinary College Certificate).

In 1921, the course was raised to the status of a Diploma, known as L.V.P. (Licensed Veterinary Practioneer). The three-year course was increased to four years of study after matriculation. The college was affiliated with the University of the Punjab in 1943, and B.V.Sc. (Bachelor of Veterinary Science) degree program was started. In 1956, this degree was renamed as

B.Sc. (Animal Husbandry) instead of B.V.Sc. The course period was increased from four to four and one-half years and more courses in Animal Science were added to the existing Veterinary Science courses.

Veterinary (now Animal Husbandry) graduates, during their college period, also receive some training in Animal Husbandry and Veterinary Extension Education. When they are appointed in the field as Veterinary Assistant Surgeons, etc., as employees of the Department of Animal Husbandry, they are supposed to encourage farmers to form cattle breeding societies and manage subsidiary schemes to promote better breeds of livestock. For the general uplift of livestock and, ultimately, of the farmer themselves, they educate the farmers in feeding and breeding of animals, poultry rearing, sheep raising, etc., in addition to attending to the preventive and curative aspects of livestock diseases.

Agricultural Education in East Pakistan

The present East Pakistan Agricultural Institute started its B.Sc. (Agri.) program in the year 1940 with a two-year course leading to a B.Sc. (Agri.) degree after graduation in Science, B.Sc. This course continued unti 1945. Then, on the recommendation of Mian Afzal Hussain (formerly Vice Chancellor, University of the Panjab), the course was increased to three years after intermediate science, i.e., F.Sc. This plan is still in use. The East Pakistan Agricultural Institute is affiliated to Dacca University, the only agricultural college in East Pakistan. There have been 405 graduates in its 22 years existance (30).

The Master of Science in Agriculture (M.Ag.) course was started in 1952 in this institute. From 1952 to 1960 there have been 32 M.Ag. degrees granted.

Twenty Thana* Agricultural Officers were trained in American University, Beirut, about six per year, and at present, 80 Thana Agricultural Officers are being trained per year in a six months course at the Agricultural Extension Training Institute, East Pakistan.

The College of Animal Husbandry and Veterinary Science, which was established at Comila on November 7, 1947, was shifted to the site of East Pakistan, Agricultural Institutes in 1950, and soon after to a new campus at Mymensingh. This college offers a degree course B.Sc. (A.H.). About 500 have graduated from this college with this degree.

East Pakistan Agricultural University, Mymensingh:--The higher level of agricultural education in East Pakistan is guided by the present East Pakistan Agricultural University, Mymensingh and East Pakistan Agricultural Institute, Dacca.

The university has the following functions:

1. Under-graduate and graduate teaching.
2. Research of fundamental and development type.
3. Training in Extension Methods and Organization.
4. Teacher's Training and short courses.

The university admits 200 or more students every year. It will ultimately have the following main faculties and students will receive their training from any of the following faculties:

1. Agriculture
2. Animal Husbandry
3. Veterinary Science

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*In East Pakistan, each district is subdivided into Thanas, corresponding to Tehsils in West Pakistan. These are administrative units.

4. Agricultural Engineering and Technology
5. Agricultural Economics and Rural Sociology
6. Basic Sciences and Arts

The situation with respect to the trained agricultural graduates in East Pakistan is very desperate because of the very large requirement of such trained persons in the immediate future as well as because of the very low capacity of the institutes. The higher level of agricultural education in East Pakistan would be mainly guided by the present East Pakistan Agricultural University, Mymensingh, and East Pakistan Agricultural Institute, Dacca, practically on the same lines as would be done by the West Pakistan Agricultural University, Lyallpur.

Agricultural Education at Secondary and Primary Levels in East Pakistan

The authors of the report (36) of the Food and Agriculture Commission on Pakistan (1961) state that agriculture including Animal Husbandry and Co-operation should be subject of a study in secondary schools. According to the report, "Knowledge of agriculture and cooperation could be promoted in the Primary Schools through the operation of small market gardens and small consumer stores." The Food and Agriculture Commission recommended that the Report of the Commission on National Education (35) with respect to the teaching of agriculture in the Secondary Primary Schools be implemented. This would be primarily vocational agriculture. Vocational education in agriculture is needed to train present and prospective farmers for proficiency in farming and mainly serves three well-recognized groups.

a. In-school farm youth preparing to farm.
b. Out of school young men engaged in farming.
c. Adult farmers fully established as operators.

The programs in the secondary level of agricultural education in East Pakistan are developed by the Department of Education and are implemented by The Education Extension Centre.

The second Five Year Plan, as developed by the Government of Pakistan, sets a target of 55 high schools in East Pakistan to offer courses in agriculture by the end of the period (June 30, 1965). Certain schools are being designated each year by the Director of Public Instruction to develop multilateral or bilateral programs which include courses in agriculture. In order to meet the need for teachers of agriculture in these schools, including the five pilot schools with an agricultural emphasis, a program of one year of intensive training in technical agriculture and in methods of teaching of agriculture is now in force at the National Development Training Institute, Dacca. This training will be offered each year until graduates are available from the new Agricultural University. This training will be for science graduates.

The Department of Agriculture, East Pakistan, is also planning to establish four pilot schools with an agricultural emphasis from first primary to higher secondary stages.

Agricultural Education for the Intermediate Level Workers

Training of intermediate level workers in agriculture and animal husbandry and other related disciplines has not received proper attention. In the first place, there are not enough intermediate level workers. As a result, the graduates in agriculture are doing much routine type of work, for which men with shorter training emphasizing practical work, would not only be equally suitable, but possibly more proficient.

Secondly, with the small number of training institutions training intermediate level workers the duration of the course and the course content are extremely meager for the purpose. Ordinarily, this training has been in the hands of technical departments which employed them and their training period is usually one year. The following types of these intermediaries have been trained by the various technical departments:

Field Assistants:--The Department of Agriculture in West Pakistan runs five Agricultural Training Institutes at Sargodha, Peshawar, Rahim Yar Khan, Quetta-Sariah, and Sakrand, for the training of field assistants. Originally, these field assistants were called the Moqaddams and were trained at the former Punjab Agricultural College, Lyallpur. Later, the status of Moqaddams was raised to make them field assistants and a few Field Assistant Training Centers, in addition to that of Lyallpur, were opened at different places in the province. At the termination of the Village-AID Department, four of the six Village-AID Training Institutes were transferred to the Department of Agriculture which merged with the already existing Field Assistant Training Centers in these institutes inherited from the former Village-AID Department and renamed them as Agricultural Training Institutes. The remaining two were transferred to other Departments.

The training course of the field assistants is of one year duration and covers the practical aspects of Agronomy, Horticulture, Plant Protection, and Animal Husbandry.

Stock Assistants:--The Department of Animal Husbandry, West Pakistan, trains stock assistants at the College of Animal Husbandry, Lahore. The stock assistant's training is normally of one year's duration and covers the subjects related to Animal Husbandry, feeding of animals and Veterinary Science.

The stock assistants serve as a link between the farmers and the veterinary assistant surgeon in hospital duties and in organizing the Farmer's Cattle Breeding Societies. Also, they help farmers to learn about the breeding of animals, feeding of animals, prevention and control of diseases, poultry raising, sheep rearing, etc.

The number of stock assistants turned out every year by the College of Animal Husbandry, Lahore, is very small in comparison to the need in the villages. In view of this need an emergency scheme of training stock assistants has been launched by the provincial Animal Husbandry Department. Under this scheme this training program has been organized at the District Veterinary Hospital and the training period has been reduced to only six months. The training course mainly deals with the subject matter content of Animal Husbandry/Veterinary Science.

Foresters:--Provincial Forest Department trains foresters at the Forest Training Schools situated at Bahawalpur and Murree in West Pakistan. The course is of one year's duration. The subjects taught at the Forest Schools mainly concern with Forest Conservation, Afforestation, Soil Conservation, and some Extension techniques to stimulate farmers to grow more trees and protect forests from indiscriminate felling and grazing.

The Estate Managers:--In West Pakistan, the Agricultural University has sponsored the idea of a three year course after 8th grade, or two year course after 10th grade. The University in this connection, set up a pilot school of its own. Another such school has been started at Rakh-Ghulaman with the joint efforts of West Pakistan Agricultural University, Lyallpur, and West Pakistan Agricultural Development Corporation. At the former, the University has admitted 10th grade pass students and would give the course for two years, whereas at the latter, the Agricultural Development Corporation has admitted 8th grade pass students and would take them through the same course in three years. Emphasis in this course is on practical work with the minimum of connected theory.

stock assistants and the elaborate training programs of the agricultural colleges and universities in the two wings of the country are endeavors to cope with this need.

The five Agricultural Training Institutes of the Department of Agriculture turn out every year 100 field assistants per Institute. Similarly, about an equal number of stock assistants are produced annually through the different training programs run by the Department of Animal Husbandry. Likewise, about 200 Agricultural graduates are produced annually in West Pakistan and about 50 in East Pakistan. About 50 graduates in Animal Husbandry are trained annually in West Pakistan and about the same number in East Pakistan. In view of the demand for trained personnel in the country the training facilities have been enhanced all over the country and it is hoped that within a few years their need will be met.

CHAPTER IV

EXTENSION TRAINING AT THE WEST PAKISTAN AGRICULTURAL UNIVERSITY, LYALLPUR
and
IN-SERVICE TRAINING AND THE EXTENSION WORKERS

The West Pakistan Agricultural University at Lyallpur was established to tackle the problems and exploit the opportunities obtaining in all aspects of farming and farm life. In view of the dominant position of agriculture in the country's economy and high proportion of rural people to the total population, it has to play a major role in the development of agriculture and the uplift of the rural communities.

While reviewing the reports of the Food and Agricultural Commission, The Scientific Commission, and National Education Commission on Pakistan, Swenson (40) remarked that although the role of the new agricultural universities in research and Extension is not fully clarified in relation to existing and proposed research and Extension organizations, it can be hoped and anticipated that they will play an important part in the agricultural development of Pakistan. He emphasized that it must not be forgotten that the ultimate goal of agricultural education and research is the application of science, technology, and sound management practices on the farm. This can be accomplished only by reaching the Cultivator. His welfare must be the principal concern of agricultural teaching, research and Extension.

With these broad objectives, since its establishment on November 1, 1961, the Agricultural University, Lyallpur, has assumed the following responsibilities:

a. Teaching
b. Research
c. Teacher training
d. Extension and short courses

Presently the Agricultural University brings together on the same campus scholars of agriculture, animal husbandry, veterinary science, agricultural engineering, agricultural economics, rural sociology, agricultural education, and agricultural extension. These disciplines in the University have been organized into the following faculties and divisions:

1. Agriculture
2. Animal Husbandry
3. Veterinary Science
4. Agricultural Economics and Rural Sociology
5. Agricultural Engineering and Technology
6. Institute of Teacher Training, Extension and Short Courses
7. Division of Basic Sciences and Arts (20).

Institute of Teacher Training Extension and Short Courses

The basic purpose of the Institute of Teacher Training, Extension and Short Courses is to train teachers of agriculture and agricultureal extension workers and to coordinate and conduct the university's program of short courses and agricultural extension. The scope of activities includes undergraduate and graduate course offerings, research, extension, in-service training courses, special short courses, and special services.

Extension and Extension Training

So far, Extension in Pakistan has been more an art rather than an applied science. No research work worth the name has been done and practically no training facilities were available until recently in the country. An organized effort is being instituted by the creation of the Departments of Extension and Short Courses in the West Pakistan Agricultural University in which the effectiveness of training methods would be evaluated and new techniques developed. The Department of Agricultural Extension has been created within the Institute of Teacher Training, Extension and Short Courses of the University with the following objectives and goals as they are being developed*:

Objectives:

1. To provide undergraduate and graduate training in Agricultural Extension for West Pakistan Agricultural University students that are interested in entering the field of Extension following graduation.
2. To conduct a university field program of Agricultural Extension; to teach rural people to determine accurately their own problems; to help them acquire knowledge useful in solving these problems and to inspire rural people into action.

Specific Goals:

1. Provide professional Extension courses at the undergraduate and graduate level.
2. Work with other faculties to insure that prospective Extension workers are well grounded in subject matter.
3. Conduct demonstration Extension programs in selected villages for teaching and research purposes.
4. Conduct and coordinate the University's Agricultural Extension programs.

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*General Information and Programs of Study offered at the Institute of Teacher Training, Extension and Short Courses. Unpublished brochure of the Institute, 1963-64.

5. Conduct in-service training programs for Extension workers.
6. To make available resources of the University for further strengthening of Extension programs in West Pakistan.
7. To develop an understanding of the Extension Service as an educational institution, including its development, scope, philosophy, objectives, responsibilities, opportunities, and Extension personnel roles.
8. Develop competence to train others to teach.
9. To understand Extension's relations with other agencies, community and commodity groups and the general public.
10. To examine the future of Extension in Pakistan and determine areas of emphasis, trends, needs, and scope.

For the pre-service training of Extension workers at the undergraduate level in the 5-year B.Sc. (Agri.) degree program, the students would be offered the following courses to equip them with the basic knowledge of Extension and general agricultural education.

During the fourth year of the B.Sc. program (required of all Agricultural students).

TTE 4 AGRICULTURAL EDUCATION AND PSYCHOLOGY

a. The aim and plan of the study. Intelligence, memory, learning, imagination, heredity and environment. How activity is aroused, the stimulus and the motive. Feeling and emotions. Observations, thinking and personality.
b. History of agricultural education in Pakistan, agencies and institutions involved, training programs and employment opportunities.

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*Teacher Training and Extension--a departmental abbreviation.

The learning process, general methods of instructions, facilities, program planning and development.

c. Meaning and scope of Agricultural Extension Services, philosophy and principles of Extension work. History and progress of Rural Extension programs in the United States, India, Phillipines, etc. History and progress of similar work in Pakistan, functions and objectives of Extension work. Qualities required of an Extension worker. Methods of Extension work, use of audio-visual aids, program planning, Extension evaluation and reporting.

During the fifth year, the B.Sc. program (required of Agriculture students majoring in Extension).

TTE 53 PRINCIPLES OF AGRICULTURAL EXTENSION

Psychology and education, child growth and development, psychology of learning, individual differences, mental health, evaluation and psychological principles applied to Extension. A Study of Extension teaching methods and their application to program situations. Sources and evaluation of materials in Extension teaching. A study of audio-visual aids in Extension.

TTE 54 FIELD METHODS IN EXTENSION

Planning Extension programs, developing methods to be used and gaining practical knowledge through field application. Programs evaluation and reporting.

Extension Training at the M.Sc. Level

Aims of the degree.

The aim at the Master of Science degree level is to introduce the student to (a) the methodology of research, and (b) to give depth to his knowledge by giving intensive advanced courses of study. The core of the program is research work of the student, leading to the presentation of an acceptable thesis. In addition, the student has to take a considerable number of advanced courses and attend seminars. A much higher weight has been given to course work for this degree which has 60 per cent course work as compared to 35 per cent course work for the research degree, including the presentation of an acceptable thesis.

The M.Sc. program provides not only a high level of specialization in the student's chosen field of study, but also in at least one or two closely supporting scientific disciplines. Thus a student is required to select one "major" and one or two minor fields of study. The ratio of courses is approximately two-thirds in the major field and one-third in the minor fields of study.

M.Sc. (Agri.) Extension courses being offered are the following:

Ext. 101. AGRICULTURAL EXTENSION METHODS

Theoretical and practical application of Extension, teaching methods and factors which affect the adoption of improved farm and home practices.

Ext. 102. COMMUNICATION IN AGRICULTURAL EXTENSION

A study of the principles of communication techniques and their application in speaking and writing. Preparation and use of audio-visual aid material in agricultural extension programs.

Ext. 103. EXTENSION MANAGEMENT AND LEADERSHIP DEVELOPMENT

Techniques and methods of developing Extension leaders and a study of the principles of Extension management.

Ext. 104. PROGRAM PLANNING EXECUTION AND EVALUATION

A study of the principles involved in planning and conducting the Extension program. A study of the elements of the planning process and their application.

Ext. 105. PLANNING THE EXTENSION PROGRAM

Planning of an Extension program for a selected village, study and analysis of village situation, subject matter needs, teaching aids and other materials.

Ext. 106. SUPERVISED FIELD EXPERIENCE

Execution of Extension programs. Each student will devote six weeks to the application of an Extension program in a selected village. A daily written report of activities will be submitted.

Ext. 107. PROGRAM EVALUATION

Preparation of a term paper on details of field program attempted, and appraisal of accomplishments and failures.

Ext. 119. SPECIAL PROBLEM

Research in Agricultural Extension. Thesis in Agricultural Extension.

Ext. 120. SEMINAR

Farmer-Student Program:--In order to give the students practical training in the field of Extension and develop in them confidence in contacting and approaching the farmers and imparting information to them, a program of one farmer-one student partnership has been launched in the university. One student brings one farmer every week from the adjoining villages to the university. Thus, a group of 25 students and the same number of farmers visit the university on a particular day in the week. Each time they are taken to two departments of the university. The specialists working in the departments explain to them their new findings and the farmers ask them questions about the problems that they might be facing on their farms and the difficulties which they anticipate in introducing new practices suggested to them by the university specialist staff. The student in this situation gets a chance to apply techniques of human approach to stimulate farmers and arouse their interest in the program.

Extension programs need a well trained and competent staff for their success. Such staff includes not only Extension workers who have contact with village families but also subject matter specialists and administrators of the Extension programs. The staff required in the beginning may be small but it would have to be expanded at various levels as the programs develop consistent with area needs and resources. Also training facilities, which are presently very meagre, shall have to be developed accordingly.

Prior to the creation of the Agricultural University, facilities for training of researchers, planners, and university teachers were limited to two institutions, Lyallpur and Dacca, which produced a handful of people with a Master's degree. Most of the work done for the degrees was confined to the preparation of a thesis under the guidance of the university teacher or a research worker. Even up to that level of education, no facilities existed for post-graduate work in most fields of Animal Husbandry, in any field of Veterinary Sciences, Rural Sociology, Agricultural Education, Agricultural Extension, or Agricultural Cooperation. In the Agricultural University graduate programs in these fields now have been started.

In-Service Training of the Extension Workers

Presently, no regular in-service training programs for Extension workers are being run by the University or the Technical Departments. However, some piecemeal programs for the in-service training of the intermediary workers and the Extension agents may occasionally be held at the District Headquarters, Departmental Demonstration-cum-Research Farms or other suitable places. These programs, how meager they may be, are usually developed on the training needs of the Extension personnel or needs of the local communities. Thus, the training programs may be of two kinds, viz., (a) induction training; (b) refresher courses.

(a) Induction Training:--Newly appointed Extension workers are usually attached with some experienced agent for a period of six months to a year. Here he works as an assistant to the regular Extension Agent and learns about the Extension organization, office routines and practical application of Extension techniques. Some of this induction period may be spent on a departmental farm to gain experience in the latest techniques of farming, farm management, etc. This training provides an opportunity to the newly appointed Extension workers to become oriented in the Extension Service, its service rules, job responsibilities, need for coordinating with other departments and conduct in the Service.

The above induction training technique applies mainly to the Department of Agriculture. However, the Department of Animal Husbandry provides for a similar type of induction training to the new entrants. They are, likewise, appointed as Reserves and attached to an experienced worker. They also spend six months to one year in such a position and get needed experience and orientation.

(b) Refresher Courses:--The Technical Departments hold refresher courses for their personnel from time to time. Although such refresher courses are needed to put the Extension Agent on sound footing, yet they are not a regular feature with the respective departments. Nevertheless, whatever courses are arranged are determined by the program supervisor on the basis of deficiencies in the program, training needs of the Extension workers, or on the felt needs of the local community. These refresher courses may include subject matter discourses, seminars, lectures, discussions, demonstrations, etc.

The importance of training programs cannot be over-emphasized. No Extension Service of any country can run smoothly and effectively without providing for pre-service training, induction training, and post-induction training of its staff. Efforts should be made to organize, develop, and enhance such programs so as to make the Extension Service more functional in Pakistan.

CHAPTER V

TRAINING OF EXTENSION PERSONNEL IN THE USA

Need for Training

> If Extension workers are to be expected to meet today's challenges, they must be well educated for their jobs in the fullest sense of the word. Curricula of the land-grant colleges cannot aim at providing separate solutions to all problems to be faced by their students in all different types of activity in which they will eventually engage. However, Extension work has become of sufficient importance as a profession to warrant specific consideration by college administrators in curricula determination.

Thus are the opening words of the Joint Committee Report on Extension Programs, Policies and Goals (3) thereby setting the broad outlines of the educational opportunities of the Extension personnel in the USA. The statement depicts that the land-grant colleges and universities realized their responsibility of preparing the Extension personnel, through their education, in such a way that they become capable of meeting the purpose and goals of the Extension Service. These institutions feel that in view of the rapidly changing world and advancement of technical and specialized fields, it is more than ever necessary that adequate provision be made for educational training so as to prepare Extension Services, not only to find and keep desirable personnel, but also to see that they are equipped mentally to carry on the job of Extension in the best tradition. Careful selection, counselling and training of prospective Extension workers is of vital importance; however, the utmost attempts should be made to provide training for people who already are veterans of the Extension organization.

Extension was established for the dissemination of research findings among its clientele. Its function is teaching or changing the human behavior to desirable ends, meaning thereby that Extension is an educational process. Also, there are certain characteristics peculiar to Extension education that make it one of the most difficult of all forms of education. Adults are generally tough-minded, their ideas are mostly fixed and crystalized, and they are heterogeneous with regard to their age, education, and experience. The classroom of Extension is the open fields and the home; in addition, the programs depend upon the voluntary participation of the Extension student. These are the reasons why Extension education demands more competent and more reliably trained men and women.

The preparation necessary for the Extension workers prior to the inception of the Smith-Lever Act was essentially competency in agricultural and home economics subject matter and its practical application. The method of approach was mostly that of individual teaching through personal contact and gaining of acceptance of the Cooperative Extension Service by the public. As agriculture and rural living developed and as the Extension program became more widely accepted, Extension workers were increasingly devoting more time to group teaching, program planning, organization, program coordination, and the use of more and newer teaching methods; thus changing the Extension techniques from personal service to group leadership; from making the program to guiding it; from quantity to quality of results and from individual problems of farmer and homemaker to the farm and home unit approach.

These changing functions of the County Extension workers has made it necessary to master additional competencies through various training opportunities. This gap between the preparation of the Extension worker and what the present day job demands of him is gradually being recognized by administrative and training officials in Extension and on this basis they are developing more effective and coordinated Extension Training Programs.

Coordinated Extension Training Program

According to Duncan (14) a coordinated Extension Training Program consists of the closely integrated operation of the following:

1. Recruitment, selection and student advisory services at the pre-college and college level.
2. Undergraduate course work in Cooperative Extension education.
3. Training of new agents just beginning their Extension career.
4. In-service training for on-the-job Extension personnel.
5. Graduate work in Cooperative Extension

The brief description of these phases would show how the selection and training needs of the Cooperative Extension workers are fulfilled in the United States.

Recruitment, Selection and Counselling

The first county agricultural agents were people who were natural leaders within their community, and showed an intense desire for improved farming methods and procedures. These agents did not have the benefit of college training although on them rested the task of building a firm foundation upon which the Extension Service was eventually to build.

As experiment stations began to assemble more and more information from research, the need for better trained men was felt seriously. College trained men began to be more and more in demand. The situation with regard to the demand for the home agents and Extension specialists was much the same.

Extension Services have enlarged not only in size but also in complexity of organization. Because there is a continually growing demand for Extension workers, it would seem logical that the Extension Services should be aware of the importance of recruiting personnel.

The recruitment and selection of prospective Extension workers in a coordinated Extension training program as suggested by Duncan (14) is implemented by well planned contacts with pre-college youth through County Extension workers, school officials, rural leaders and the effective use of brochures, group meetings and individual contacts. Entering freshmen and students in their first two years of college are potential Extension Agents, especially those with interests in Extension work and characteristics and capabilities necessary for the profession. Opportunities are provided for these early contacts through interviews and guidance by Extension officials and by directing students into undergraduate course work that prepare for Extension careers. At the junior and senior levels, students are beginning to think more specifically about job opportunities in agriculture and home economics Extension. Through cooperation between course advisors and Extension training staff members, students get more specifically directed into Extension curricula or patterns of course work. Extension-type campus and field experiences are provided in some Land Grant Colleges and more definite selections and placement of qualified students are made for job openings. Ideally, the supervisor and administrators systematically arrange, during the senior year, a series of job opportunity interviews beginning early in the fall and extending over several months up to graduation, finally culminating in selecting qualified students for employment.

Undergraduate Course Work or Pre-Service Training

A little more than twenty years ago there was practically no planned college training available for those people interested in Extension work. At that time there were courses in history, philosophy, etc., in the Liberal Arts

Colleges, and courses in Technical Agriculture in the Agricultural Colleges. Eventually, if the student was interested, he took courses in journalism, psychology, and other subjects which he felt would best fit him for Extension work. It was not until the post World War II period did any college get into full swing on a good undergraduate program (41).

Presently the profession of Cooperative Extension work has reached a level of maturity sufficient to justify the development of patterns of study or curricula for undergraduates preparing for careers in this profession. Therefore, the undergraduate study program in a sound coordinated Extension Training Program is worked out in one or more of three patterns.

First, a major in a specialized field of agriculture or home economics, supplemented by courses in Cooperative Extension education, social sciences and related courses.

Secondly, selecting a course of study in general agriculture or general home economics and taking Cooperative Extension education and related courses as prescribed.

Thirdly, there is now being developed curriculum in which students may elect agriculture or home economics extension as a major. They will take prescribed courses in agriculture or home economics.

Within either of these three patterns of study, the student should become basically prepared in the necessary natural and social sciences, in technical agriculture and home economics, in the communication field and in cooperative extension education including field training at the undergraduate level.

Vanderberg (41), in his study in Wisconsin concluded that the first emphasis at the undergraduate level must be placed on subjects in agriculture and home economics. In addition, the curriculum must include the understanding of the scientific, economic and several forces that affect the farm, the family, and the community. General courses suggested are chemistry, biology, physics, economics, sociology, education, psychology and the humanities. The program should be integrated so as to give the student a knowledge of the broad principles involved in the American way of life and the way it is influenced by the economic and social aspects. He further proposes a series of Extension courses to acquaint a student with the over-all Extension policies, goals, and purposes.

In 1948 the Joint Committee on Extension Programs, Policies, Goals (3) gave a report which had a far reaching significance for the training of Extension workers. The report gave nine basic goals for educational institutions to follow in setting up an over-all Extension curriculum.

1. Basic grounding in physical and social sciences of significance to life in rural America.
2. Familiarity with reliable sources of important information.
3. Understanding of the background, philosophy, objectives, policies and organization of the Extension systems.
4. Skill in applying principles of psychology and education to Extension teaching, supervision and administration.
5. Ability to organize rural people and stimulate leadership among them.
6. Understanding of the processes by which rural people and Extension workers in cooperation can analyze local problems, arrive at potentially sound solutions and develop a county Extension program.
7. Knowledge of the problems and procedures of adult and out-of-school youth education.
8. Skill in organizing, interpreting and presenting basic economic,

social and technical and scientific data, and their implications in rural life.

9. Understanding of the techniques and processes of evaluating the effectiveness of Extension programs.

Cornell's undergraduate Extension program has been in operation probably as long as any other institution, and no doubt ranks high among those schools having Extension courses. They list the following subjects as open for interested students (4).

Extension organization, administration and policy--one semester, open to seniors.

Oral and written expression--two semesters, open to juniors and seniors.

Advanced oral expression--one semester, limited to nine students, future agents who have completed the above courses.

Elements of journalism--one semester.

News writing--one semester.

Agricultural advertising and promotion--one semester, open to juniors and seniors.

Radio broadcasting--one semester.

Farm and home radio production and programming--one semester.

Photography--one semester, open to juniors and seniors.

Visual aids, their scope, preparation and use--one semester, open to juniors and seniors.

The home economic curriculum is similar except for an additional home economics journalism course.

Practical Training

Recently it has been proposed (9) that classroom work alone is not enough for the tasks facing the inexperienced county agents. Therefore, an apprentice period was suggested in which, in the three months between a student's junior and senior years, the prospective Extension worker serves as an assistant under an experienced county agent. During the summer the Extension supervisor visits him about three times to examine the progress made. At the end of the three months, an evaluation is made by the county agent and supervisor. This is an effective method of giving an undergraduate a better understanding of what is involved in Extension work.

Induction Training

This is the training of new agents at the beginning of their Extension career, usually within the first six months to one year of their employment.

Every newly employed worker wants to succeed at his job. He is highly motivated.

This high motivation must be maintained while he is developing his abilities if he is to give top performance. Those things that happen during the first day, the first week, or the first few months, may determine whether the new Extension agent continues to be highly motivated or whether his will to work is weakened or even destroyed.

The first day is a red letter day for the new employee. Everything that happens on this day, especially the behavior he observes, may affect his job attitude and his future performance. The impression he gains of the Extension organization during his first weeks is likely to stay with him throughout his career.

The success that he hopes for and which others want him to have, is likely to come only when he:

1. Understands what is expected of him.

2. Feels that he is an important part of the Extension Service--"that he belongs."
3. Feels secure in his work.
4. Receives recognition for his efforts.

When these conditions are present, the new worker will utilize more fully his capabilities and strive to improve himself in an effort to get more satisfaction from his work. The purpose of induction training is to bring about these conditions during the first year of a new agent's employment (5).

One of the most vital training responsibilities facing the Cooperative Extension Service is that of adequately preparing the new Extension worker for his first year of work. The beginning county Extension worker immediately experiences a need for intensive training in order to become adequately oriented to the new situation and job responsibilities. By means of a training committee representing the various phases of the Extension program, the training needs and problems of new agents are determined and a training program implemented to help the first year worker in effectively performing his job responsibilities. There are several methods through which this training can be given. The method or methods are selected on the basis of the group and their needs. Among these training approaches, are observing and participating in various phases of Extension work in different counties for several days before taking full job responsibilities; having district meetings with just the new agents and supervisors within two or three months after employment, special conferences in the county office with the county staff and district supervisors during the early phases of employment, organized reading, planned correspondence lessons, and a one week new agents training short course, six to eight months after employment. The most successful training with new agents is done right on the job with competent, well-established, cooperative and interested agents. This is on-the-job training and requires an actual county situation. In this instance, the main training job is delegated to trainer agents.

It would be an omission not to mention the role of the supervisor in this important period of induction training. It is advisable that the supervisor should introduce a new agent to a county, i.e., to county officials, newspaper and business people and those persons in other agricultural organizations. A lengthy discussion in such subjects as program planning, office procedures and general problems of the county aid the agent in avoiding many mistakes. The degree to which supervisors should partake in actual training will usually depend on the time available and his confidence in the trainer agent. But there is no doubt that he can play a key role in induction training program.

In-Service or Post-Induction Training of Extension Workers

In-service or post-induction training as contrasted to new agent training or induction training is defined as the process of determining the training needs and problems of all Extension personnel after having been on the job more than one year. Further, it is the providing of necessary instruction and learning situations to fulfill these needs.

An Extension worker is supposed to be trained to carry on his work in the best manner possible. He must be able to do the following five things:

1. Know his agriculture or home economics subject matter not only as it was when he took his B.Sc. degree but also as it develops from year to year.
2. Be able to find out what people's problems are.
3. Be able to select from the mass of subject matter the practical

and useful which is related to the people's problems.

4. Be able to get this information to the people in accurate but digestible form.

5. Be able to stimulate clientele towards self-improvement.

In addition to these, Extension workers must have other skills and understanding such as the ability to evaluate the effectiveness of his work, maintaining good relations with co-workers, good office management procedures, and a general interest in the social and political aspects of the people with whom he works. In other words, it is an obvious fact that the Extension agent must be well trained in many disciplines. The aim of such training is not only to increase the proficiency of the agent, but also to keep him up to date in subject matter and teaching methods.

The Extension Service has for a long time recognized the importance of providing a well planned in-service training program for their agents. As a result, this phase of Extension training is probably the most advanced of any other branch as far as actual training is concerned.

The general goal of in-service training in the post-induction period is to (1) fill in gaps in the previous preparation; (2) develop ability to carry out the Extension program; and (3) stimulate continued growth of Extension personnel. The basic goals of in-service training are the same as already outlined on page 61 of this Report.

There are several different approaches being followed both for determination of program content and means for conducting in-service training. Determination of program content may be done by means of group decisions, by committees representing county workers, supervisors, specialists and administrators. Another approach is by means of a needs inventory. This is done by the training committee preparing a needs inventory questionnaire or check list to be administered by personal interview, mail or group administration.

The steps in diagnosing the training needs usually recommended and ideally used are (6):

1. Locating areas of training need through:
    a. Analysis of jobs.
    b. Analysis of program emphasis.
2. Identifying the individual workers in need of training through:
    a. Self-surveys of needs and interests.
    b. Day-to-day observation by supervisor and specialist.
    c. Tests.
    d. Analysis of performance evaluations.
3. Determining priorities in training needs.

The methods through which in-service training is conducted are: in-service training short courses, workshops, conferences, clinics, field trips and regional short courses. These are determined in terms of variety, appropriateness for reaching objectives and available resources.

Special three to six week Extension summer schools have been regarded as very helpful to the worker. Some states provide a two or three day school or institute when introducing a new program idea or teaching method.

Workshops have become of considerable importance. They bring the people together, often from several states, for a period of two or three weeks where intensive discussion is conducted on topics determined cooperatively by the participants.

Vandeberg (40) has made the following conclusions from his studies concerning in-service training:

1. Continuously planned in-service training is necessary for upholding the caliber of work of the Extension Service.

2. A direct part in the planning of in-service training activities by agents enhances their effectiveness.
3. Supervisors and other state workers need to give special attention to inspiration and provision for in-service training of agents.
4. Agents need to clarify their objectives and goals, and then plan for reaching those objectives and goals as they plan and participate in in-service training activities.
5. Agents need to recognize each in-service training opportunity in light of its real purpose and its limitations in determining the extent of their participation.

It must be emphasized that in-service training does not end with the induction period, but rather is geared to meet problems as they arise by constantly changing technical, economic and social conditions. Older agents are encouraged to take advantage of in-service training preferably on official time and at full pay, if possible. Regardless of the many types and opportunities available for training Extension workers, this in-service training is a continuous process based on the wants and needs of the Extension workers themselves.

Graduate Work in Cooperative Extension Education or Graduate Training

Graduate work is rapidly being recognized as an integral and essential part of every training program. The increasing complexity of the Extension worker's job in administration, supervision and subject matter fields at all organization levels, point up this critical need. Extension administrators are rapidly recognizing that men and women of ability in all phases of Extension work should be encouraged to do graduate work. This is an important way to maintain effective leadership. One authority (26) emphasizes this need by saying that a four year degree is no longer enough for Extension workers, in-service training is not, at its best, adequate for the job, graduate schools are now providing special training to fulfill needs of Extension workers and that adequate training requires increasing attention to advanced study.

Leagans (26) while discussing advanced training in Extension education listed the following factors which give rise to its need:

1. Standards for professional proficiency are constantly rising in all fields of endeavor.
2. Effective Extension work results from choice, not from chance. Effectiveness in Extension results from design, not drift, from a plan, not from trial and error. It is an intentional process, carefully designed to attain specific ends which together contribute to broader and higher ends.
3. It is an intricate and complex educational task today to design and execute Extension programs that significantly change the action of large numbers of people.
4. Education is the central force in effective Extension work.
5. Central idea in Extension work of "helping people learn how to help themselves" has proven to be a "good idea."
6. Effective educational leadership requires that a gap exist between what the leaders know and can do and what his followers know and can do.
7. It is not what a person merely knows, but what he comes to believe that determines what he does when he is free to act as he chooses.
8. To raise the level of living of farm people requires that Extension give attention to:
    a. The family and its individual members.

   b. The home as a physical unit.
   c. The farm as a business enterprise; and
   d. The keeping of these in reasonable balance.

9. There are two major areas in which Extension workers must have adequate professional competency:
   a. Technical subject matter on what to teach.
   b. Educational process on how to teach.

10. There is now developed a body of knowledge about Extension education that is being recognized by university graduate schools as a major field of study leading to both the master's and doctoral degrees.

In view of the rising need for advanced training, graduate work in Extension education is now being offered in 44 institutions in the United States of America. Out of these, 23 institutions offer Master of Science in Agricultural Extension; 14 give Master of Science in Home Economics Extension; four give Ph.D. in Agricultural Extension; and three give Ph.D. in Home Economics Extension. Thirty-six institutes offer undergraduate courses in Extension for men and 38 offer these courses for women. Thirty-two institutions offer graduate courses in Extension for men and 31 for women.

In 1962, there were 393 Extension workers on study leave with 378 of these taking work for credit. There was an additional 778 registered for credit courses at various institutions. Also there were 1,040 Extension workers registered for off-campus courses for credit. This makes a total of 2,211 Extension workers out of approximately 15,000 workers taking courses for credit or on a noncredit study leave basis. Approximately one-fourth, 458, were registered at one of the four Regional Extension Summer or Winter Schools.*

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*Report of Programs in Extension Education for Professional Extension Workers, 1962. Div. Res. Ext. Trng, FES, USDA, Wash., D. C. ER&T 134(5-63).

CHAPTER VI

SUMMARY AND RECOMMENDATIONS

Summary

Socio-Economic Conditions in Pakistan

The State of Pakistan was created in 1947 when she won her independence and the subcontinent of British India was divided into Pakistan and Bharat.

Pakistan is now one of the most densely populated countries of the world. In 1961 the population was estimated at 93 million. Total area in Pakistan is 365,529 square miles. The country has two provinces, West Pakistan with an area of 310,403 square miles and a population of 42,880,378 people, and East Pakistan with an area of 53,126 square miles and a population of 50,840,235. The two provinces are separated by over 1,000 miles and in between lies the Republic of India. Population density, taking the country as a whole, is 256 persons per square mile. Most of the people of Pakistan, i.e., 85 per cent, live in villages.

Pakistan's economy is chiefly based upon agriculture which is the occupation of over 85 per cent of its population. The main cash crops of the country are jute, cotton, sugar cane, tea, oil seeds, and tobacco. Jute and cotton and products manufactured from them provide 75 per cent of the country's foreign exchange earnings. Other major crops are rice, wheat, barley, maize, gram,. rape, and millets. West Pakistan is mostly arid and its agriculture is dependent upon canals and well irrigation systems. East Pakistan lies in the sub-tropical belt and has an annual rainfall of over 150 inches.

Due to rapidly multiplying population, pressure on available land is increasing and the land holdings are becoming progressively smaller and uneconomical. The first consideration with every farmer is to grow his own food. He also grows a little extra food or a small cash crop so that he may be able to buy consumer goods which he cannot produce himself.

The farmer does not enjoy a high standard of living. He has a very simple home consisting of two or three rooms which he also uses as a storehouse. It is usually built of earth and thatch. His food, though adequate, is lacking in variety and balance.

The farmer's farm, which is his only asset in life, is in poor condition and needs attention. Soils are poor due to their continuous exploitation without replenishing vitality through fertilization. He knows very little about the methods of controlling insects, pests or other plant diseases. Thus the yields per acre are very low and the farmer gets poor returns from his farm.

Those who know the sub-marginal conditions under which the Pakistani farmer lives and carries on his farming would agree that an earnest and sincere effort is needed to pull him out of the morass of poverty, disease and ignorance. He must be given a chance to improve his farm, home and village so that he can lead a contented, more satisfying and fuller life.

Diffusion of Farming Information and Need for Extension Training

To make progress towards better farming, better home and community living, each farmer must ultimately make application of the available farming and home technology in his own situation and in his own way. He must be stimulated to action in ways so sound that he will derive satisfaction from changing from his old way to a new way of farming and living.

To promote such development and progress require front line workers who can effectively advise primary groups at the village level and provide supporting services from higher levels. These workers constitute the connecting link between the people and the institutions created to advance economic and social change. Upon the character, quality, philosophy, training and skill of these Extension workers largely rests the success of developmental programs. The achievement or failure of programs for promoting socio-economic change, like the Extension education program, lies in the hands of the personnel manning these programs and is determined by their ability. For these reasons proper selection and training on a continuous basis of these functionaries must be recognized as the heart and nerve center of the entire Extension program.

Training of Extension Personnel in Pakistan

Extension workers of different levels are being trained in Pakistan. Agricultural colleges in the country have been mainly producing graduates in agriculture. The bulk of these graduates are employed as Agricultural Assistants corresponding to Agricultural Extension Agents in the USA. They diffuse farming information among the farmers in different ways in addition to attending to other departmental responsibilities.

The Veterinary/Animal Husbandry colleges train Veterinary/Animal Husbandry graduates. They are appointed as Veterinary Assistant Surgeons in the veterinary hospitals and dispensaries spread over the country. In addition to attending to the preventive and curative aspects of livestock diseases, they work for the general improvement of cattle in the villages.

Forest Institutes train personnel of different levels needed by the Forest Departments. They produce Forest Officers and Forest Rangers who work for the conservation, management and development of forests in the country.

Agricultural Colleges, Animal Husbandry Colleges and Forest Institutes along with the respective departments also turn out lower level technical staff or technicians like Field Assistants, Stock Assistants, and Foresters, respectively. They are called intermediary workers. They work in between the villagers and the Agricultural Assistants, Veterinary Assistant Surgeons and Forest Officers, as the case may be, to extend scientific information among the farmers.

The most important single outcome of the reforms suggested by the Food and Agriculture Commission, Commission on National Education and The Land Reforms Commission on Pakistan, is the setting up of agricultural universities in the two wings and introduction of teaching of agriculture in primary, middle, and high schools.

The West Pakistan Agricultural University, like its sister institution, the East Pakistan Agricultural University, was started in 1961, the former around an existing Agricultural College at Lyallpur and the latter around a College of Animal Husbandry at Mymensingh. Their four-fold function is teaching, research, extension, and teacher training. In addition to other facilities, the West Pakistan Agricultural University operates an Institute of Teacher Training, Extension and Short Courses. During the period that has passed since their inception, these universities have upgraded or added five year Bachelor of Science in Agriculture course, a six year DVM (Doctor of Veterinary Medicine), and B.Sc. Agricultural Engineering course. Post graduate degree programs have also been instituted.

Agricultural Education and Agricultural Extension courses have been included as required courses at the fourth year level and as electives or specialization courses at the fifth year level of the B.Sc. (Agri.) degree program.

Extension courses added to B.Sc. (Agri.) degree program at fourth and fifth year levels include Agricultural Education and Psychology, History of Agricultural Education in Pakistan, Meaning and Scope of Rural Extension Services and Philosophy and Principles of Extension Work at the former and Principles of Agricultural Extension and Field Extension Methods at the latter level.

To introduce the students to the methodology of research and to give depth to his knowledge regarding Extension Education, M.Sc. (Agri.) degree programs in Agricultural Extension have also been started at the Agricultural Universities. The course work started at the West Pakistan Agricultural University, Lyallpur, for the Masters program includes Agricultural Extension Methods, Communications in Agricultural Extension, Extension Management and Leadership Development, Program Planning, Execution and Development, Planning the Extension Program, Supervised Field Experience, Program Evaluation, Special Problem and Seminar in Extension.

In-Service Training of the Extension Worker

Presently no regular in-service training programs for Extension workers have been developed by the universities or by the technical departments. Occasionally, newly appointed Extension workers are assigned to experienced hands as apprentices to provide for induction training. A few subject matter refresher courses, seminars, workshops and group discussions are arranged by the technical departments for their personnel to give them on-the-job or in-service training. This is by no means a regular, planned training procedure.

Graduate level in-service training is also wanting.

Training of Extension Personnel in the USA

In the USA the training of Extension personnel is preceeded by their careful selection and recruitment. This is initiated by well planned contacts with pre-college youths through county Extension workers, school officials, rural leaders, etc.

Pre-Service Training

In a sound coordinated Extension Training Program the undergraduate study program is worked out in one or more of the three patterns.

First, a major in a specialized field of agriculture or home economics supplemented by courses in Cooperative Extension Education, social sciences and related courses.

Secondly, selecting a course of study in general agriculture or general home economics and taking cooperative Extension education and related courses as prescribed.

Thirdly, there is now being developed a curriculum in which students may elect agriculture or home economics extension as a major. They will take prescribed courses in agriculture and home economics.

Within either of these three patterns of study the student becomes basically prepared in the necessary natural and social sciences, in technical agriculture and home economics, in the communication field and in cooperative Extension education, including field training at the undergraduate level.

Induction Training

One of the most vital training responsibilities facing the cooperative Extension Service in the USA is that of adequately preparing the new Extension worker during his first year of work. By means of a training committee representing the various phases of the Extension program, the training needs and problems of new agents are determined. Then a training program is implemented to help the first year worker in effectively performing his job responsibilities.

Method of training is selected on the basis of the group or individual needs. Among these training approaches are observing and participating in different phases of Extension work in different counties, conferences, organized reading, new agents training short course, and correspondence courses may also be employed.

In-Service or Post-Induction Training

The Extension Service in the USA has for a long time realized the importance of providing a well planned in-service training program for their agents. As a result, this phase of Extension training is probably the most advanced of any other branch as far as actual training is concerned.

There are several different approaches being followed both for determination of program content and means for conducting in-service training. Determination of program content is usually done by means of group decision by a committee representing county workers, supervisors, specialists and administration. A needs inventory may also be employed for this purpose.

The methods through which in-service training is conducted are in-service training short courses, workshops, conferences, clinics, field trips, and regional short courses. These are determined in terms of variety, appropriatness for reaching objectives and the available resources.

Special three to six week Extension summer schools have been regarded as most helpful to the worker. Some states provide information about new programs by means of two or three day school or institute workshop. These have become of considerable importance.

Graduate Training in Extension Education

Graduate work is rapidly being recognized as an integral and essential part of every training program. Extension administrators are rapidly recognizing that men and women of ability in all phases of Extension work should be encouraged to do graduate work. This is a necessary way to maintain effective leadership.

In view of the rising need for advanced training, graduate work in Extension education is now being offered in 44 institutions in the United States. Out of these, 23 institutions offer the Master of Science in Agricultural Extension, 14 give Master of Science in Home Economics Extension, four give Ph.D. in Agricultural Extension and three give Ph.D. in Home Economics Extension. Thirty-six institutions offer undergraduate courses in Extension for men and 38 offer these for women. Thirty-two institutions offer graduate courses in Extension for men and 31 give these courses for women.

Recommendations

Pre-Service or Undergraduate Training

Present Position	What is Lacking	What Should be Done
1. On the recommendation of the National Commissions on Education, Agriculture and Land Reforms, the 4-year course of B.Sc. (Agri.) has been made that of 5 years. Subject matter content has been increased and courses in Extension Education, Psychology, Agricultural Education, Rural Sociology, besides other subjects, have been added. Introductory courses in Extension Education are offered as required subjects at the fourth year level and in the fifth year courses in the field with more depth are given as electives for the purposes of specialization. This has made the pre-service training of Extension agents more comprehensive as compared to the past.	There is less emphasis on the practical training of the prospective Agricultural Extension Agents.	More emphasis on the practical training at the pre-service training level should be given. Such training should be incorporated as a required credit course in the fifth year of the course. The prospective Extension Agent in the final year of his pre-service training should be attached as an apprentice to an experienced Extension agent in the field for a period of 4-6 weeks during summer vacation. There he should be supervised by his Extension teacher in the university or college who should visit the trainee two or three times during the practical training period to examine the progress made by him. At the conclusion of this training he should be evaluated jointly by the Extension agent with whom the trainee was attached and his teacher supervisor.
2. Rural youth in Pakistan comprise a huge number in the general population. There is no organized youth programs in Extension or in community development organizations in Pakistan today. Experience in the USA and other countries indicate that teaching adults through the youth has been an important factor in bringing about socio-economic change.	The present pre-service training programs for the Extension agents lack youth-work training.	Youth-work training should be included as a separate credit course along with other Extension education courses. During the pre-service practical training the trainee should be required to practice his knowledge in youth work by organizing a youth club in one of the villages of the training area.

3. Giving assignments to the students in the form of reading assignments, term papers, term reports, take home examinations, etc., is not common in the Extension training institution of Pakistan.	Teachers either are not aware or are not trained in these practices which go a long way to help the trainee to increase the depth of his knowledge and cultivate in him the habit and curiosity for search and research.	The teachers, particularly during the fourth and fifth years of the pre-service training of the Extension agents should require term papers, term reports or other such written assignments from their trainees.
4. Recruitment and selection of the trainees for the Extension training is usually conducted by screening and on merit basis mostly after the matriculation examination. The question of counselling before recruitment does not arise.	Counselling of the prospective Extension agents is not practiced even after their recruitment for training.	To help the trainees to make proper choice of electives, particularly towards their final years, they should be counselled and guided. Also to pick up right men for the right job, i.e., Extension profession, aptitude tests should be employed.
5. Agricultural colleges and universities are not well equipped with up-to-date books and literature, particularly in the fields of Extension Education, Rural Sociology, Agricultural Education, Applied Psychology, etc. The subject areas newly added to this agricultural curricula.	Subjects being relatively new, few are aware of the available literature in these fields.	Efforts should be made to equip adequately the libraries of the Extension training institutions with the books, journals, periodicals and other available literature related to these fields.
6. The graduates of Animal Husbandry/Veterinary Science in Pakistan are also supposed to do Extension work related to cattle, poultry, sheep, etc., in addition to their routine jobs of curative and preventive aspects of livestock, poultry, sheep, and other animal diseases.	(i) Curricula of these colleges do not include Extension education courses. (ii) Curricula of Animal Husbandry/Veterinary Science graduate do not include youth work.	(i) Along with their training in the subject matter relating to Animal and Veterinary Sciences, the Veterinary Assistant Surgeons in their pre-service training should also be exposed to principles, philosophy and methods of Extension and Rural Sociology. (ii) Similar practical training in Extension should be given to the A.H./Vet. Sci. graduates during their final year of pre-service training as

		suggested to the Agricultural Assistants or Extension Agents. (iii) Youth-work should also be included in the curriculum of A.H./Vet. Sci. graduates. (iv) Term papers, term reports, take home exams and other written assignments and counselling of students should also be incorporated in the training of A.H./Vet. Med. graduates as suggested earlier in the case of Agricultural Assistants. (v) Libraries of the A.H./Vet. Sci. Institution should also be equipped with the available literature in the fields of Animal Science Extension Education, Rural Sociology, etc.
	In-Service Training	
A. Induction Training In-service training of the beginners of Extension Service, i.e., the induction training in Pakistan is taken care of to some extent but needs improvement and further organization on scientific lines.	Such induction training programs are not systematic and regular features of the Extension Agencies in Pakistan. They are meagre and inadequate.	For determining the training needs and problems of new Extension workers a training committee representing the various workers of Extension at the divisional level should be formed. This committee should also be responsible for recommending the induction training programs. The method or methods for imparting this training should be selected on the basis of the group or individual needs. Observing and participating in various phases of Extension work in different sectors and meetings with new Extension workers and supervisors should be tried. The creation of a new position of Leader of Training would be

		helpful in implementing the training plans. He would see that the training programs based on the training needs of the personnel are carried out effectively.
B. Post-Induction Training In Pakistan organized and well planned in-service (post-induction) training programs do not exist.	Post-induction in-service training programs are scanty, irregular, and not well planned. They are of casual and occasional nature and are not specifically based on the training needs.	On-the-job training for Extension personnel should be regular, well planned and well organized and should be based on the training needs. To determine the training needs, committees should be formed at the divisional level. These committees should comprise of all categories of Extension workers in the Division. Here also the Leader of Training would be responsible to see that the training plans are implemented.
C. Graduate Training So far the Extension workers on-the-job in Pakistan do not get ample opportunities to enhance their qualifications by joining the graduate work in the Agricultural Universities and Colleges. However, to produce agricultural specialists, research workers and teachers to teach agriculture degree classes facilities have recently been provided at the Agricultural Universities to enable the most recent graduates to continue their studies towards Masters degree in the fields of Agricultural Extension, Agricultural Education and Rural Sociology.	Agents who have field experience are not encouraged to enhance their qualifications rather they are discouraged in many direct or indirect ways.	Experienced and capable Extension agents should be encouraged and given incentives to avail themselves of graduate training. They should be granted study leave with full or half pay and/or should be given stipends or scholarships.

Training of Intermediate Level Workers

The training of intermediate level workers or technicians like field assistants, stock assistants and foresters of the Department of Agriculture, Animal Husbandry and Forests, respectively, mainly covers the subject matter areas of the respective departments. These technicians experience a lot of difficulty and problems in working with the village people and in the extension of technical know-how.	Training curricula of the technicians are deficient in the areas relating to Extension education methods and human relations. They also lack practical training in these areas in an actual situation. Their in-service training does not get due attention.	Training programs of technicians, pre-service, as well as in-service, should be made more elaborate to also include the following in addition to the subject matter fields already covered: 1. Introduction to the Extension Service in the country. 2. Extension methods and youth-work. 3. Human relation skills. 4. Cooperation. 5. Community development techniques. 6. Orientation to the field activities of different government beneficiary departments by way of specialist lectures of the respective departments. 7. Practical training in the prescribed fields in actual live situation for a period of 4-6 weeks. 8. Special committees at the district level should be organized to determine the in-service, induction as well as post-induction, training needs and problems of the technicians.

General

There is little liason between the agricultural universities and colleges and the Extension departments, viz., Agriculture, Animal Husbandry, and Forests.	There is no coordination between the Extension training institutions and the field departments. Lack of coordination and cooperation hampers the successful organization and implementation of all Extension training programs, particularly those of induction	(i) A close liason between the said institutions and the field departments need be developed as early as possible. The administrative, as well as the technical staff of the Extension departments should be involved in the planning, organizing and the actual conducting of the practical training part of the pre-service training of prospective Extension workers.

	and post-induction training.	(ii) Appointment of a Leader of Training should be introduced which would not only bring about coordination among the Extension Services and the Agricultural Universities but also would help to see through the implementation of induction as well as post-induction training programs for the Extension personnel. (iii) Departmental representatives should be occasionally invited to meet with the Extension trainees to give them orientation about the field activities of their respective departments.

BIBLIOGRAPHY

1. Akhtar, S. M. and Arshad, A. R.
   Village Life in Lahore District (A Study of Selected Economic Aspects) Social Sciences Research Centre, Univ. of the Punjab, Lahore, 1960.

2. Aiken, C. R.
   Identification of Procedures Associated with the Teaching Effectiveness of New York County Extension Agents. Doctor's thesis. Cornell University, 1952.

3. Anonymous
   Joint Committee Report on Extension Programs, Policies, and Goals. USDA and Association of Land-Grant Colleges and Universities, Washington, D. C., 1948.

4. Anonymous
   New York State College of Agriculture at Cornell University. Announcement Official, N.Y. State Coll. Agri. at Cornell Univ. Pub. 1953-54.

5. Anonymous
   Induction Training for County Extension Agents--Recommendations of the National Task Force on Coop. Ext. In-Service Training.

6. Anonymous
   An In-Service Training Program for Cooperative Extension Personnel. Recommendations of the National Task Force on Coop. Ext. In-Service Training.

7. Balachandran, K.
   "The Role of Extension Worker as Educator," Kurukshetra. Vol. VII, No. 2, Nov. 1956.

8. Benn, H. W.
   Identification of Attitudes and Values Associated with the Teaching Effectiveness of New York County Extension Agents. Doctor's thesis. Cornell Univ., 1952.

9. Brunner, Ede S. and Yang, E. Hain Pao
   Rural America and the Extension Service. Bureau of Pub. Teachers Coll. Columbia Univ., N.Y. 1949.

10. Butt, H. W.
    Principles and Philosophy of Extension Education, Extension Education in Community Development. Directorate of Extension Ministry of Food and Agriculture, Govt. of India, New Dehli, 1961.

11. Chitambar, J. B.
    Evaluation of Training Programmes, *Extension Education in Community Development.* Directorate of Extension Ministry of Food and Agriculture, Govt. of India, New Dehli, 1961.

12. Collings, Mary Louise
    "On Being Professional." Jour. of Coop. Ext. Vol. II, No. 1, Spring 1964.

13. Davis, Lloyd H.
    "On Being Professional." Jour. of Coop. Ext. Vol. I, No. 4, Winter 1963.

14. Duncan, James A.
    Training Cooperative Extension Workers--The Coordinated Approach. Coop. Ext. Ser., Coll. of Agriculture, University of Wisconsin (1957).

15. duSantoy, Peter
    "Training for Community Development." *Community Develop. Bull.* Vol. VIII, No. 1, Dec. 1956.

16. duSantoy, Peter
    "The Selection of Village Level Workers for Community Development in Developing Countries." Int. R. Community Develop. Vol. VIII, 1961. pp. 79-84.

17. Ensminger, Douglas
    Need for Extension Training. *Extension Education in Community Development.* Directorate of Extension, Ministry of Food and Agriculture. Govt. of India, New Dehli, 1961.

18. Gray, Jack D.
    "Training for Community Development." *Comm. Develop. R.*, Vol. II, Sept. 1956, pp. 44-50.

19. Harris, Chester W. (Ed.)
    Extension Education, *Encyclopedia of Educational Research.* The MacMillan Company. New York, 1960.

20. Hashmi, Z. A.
    "Trends in Agricultural Education." *Agricultural Education.* Official Journal of Agricultural Education Society of Pakistan, Vol. I, No. 2, March 1964.

21. Houle, Cyril O.
    The Education of Adult Educational Leaders. *Handbook of Adult Education in the United States.* Adult Education Association of the USA, Chicago 11, Illinois. 1960.

22. Kelsey, Lincoln D.
    "Philippines--Some Problems of Training." *Comm. Develop. Bull.* Vol. X, No. 4, Sept. 1959.

23. Kelsey, Lincoln David and Hearne, Cannon Chiles
    Cooperative Extension Work. Cornstock Publishing Associates, A Division of Cornell University Press, Ithaca, New York. 1963.

24. Kreizinger, E. J.
    Class Lecture Notes and Discussions, Agricultural Extension 510 and 511, Washington State University, Pullman, Washington. 1964.

25. Leagans, J. Paul
    Extension Education for Community Development. *Extension Education in Community Development.* Directorate of Extension, Ministry of Food and Agriculture, Govt. of India, New Dehli. 1961.

26. Leagans, J. Paul
    Advanced Training in Extension Education. Fed. Ext. Service, USDA. (Mimeograph, 1957).

27. Mathews, J. L.
    A Method for Determining the Training Needs of County Extension Worker as a Basis for Planning Training Programs. USDA Extension Service. GPO, 1950.

28. Miner, William R.
    "Training Community Development Officers." *Community Develop. Bull.* Vol. XIV, No. 1, Dec. 1962.

29. Moncur, Earl *et al.*
    "Importance of Understanding Local Customs and Culture in Establishing a Young Extension Service." *Commun. Develop. R.* Vol. V, No. 2, June 1956. pp. 4-8.

30. Noor, S. M. Abdun
    "Agricultural Education in East Pakistan--Past, Present, and Future." *Agricultural Education. Official Journal of Agricultural Education Society of Pakistan,* Vol. I, No. 1, Dec. 1963.

31. Pakistan Economic Survey, 1963-64.
    Ministry of Finance, Govt. of Pakistan, Rawalpindi, 1964.

32. Rahudkar, Wasudeo Balwant
    "The Relationship of Certain Factors to the Success of Village Level Workers." *Rur. Sociol.* Vol. XXVII, No. 4, Dec. 1962. pp. 418-427.

33. Ramchandani, J. C.
    Role, Organization and Administration of Extension Training Centres. *Extension Education in Community Development.* Directorate of Extension Ministry of Food and Agriculture, Govt. of India, New Dehli, 1961.

34. Report of the Land Reforms Commission for West Pakistan, Jan. 1959.
    Manager of Publications, Govt. of Pakistan, Karachi. 1960.

35. Report of the Commission on National Education. Manager of Publications. Govt. of Pakistan, Karachi, 1960.

36. Report of the Food and Agriculture Commission. Manager of Publication. Govt. of Pakistan, Karachi. 1960.

37. Shamim, Ibrahim
The Worker as a Person, Village-AID in West Pakistan, The Superintendent, West Pakistan Government Printing, Lahore, 1958.

38. Slocum, Walter L. et al.
Village Life in Lahore District (A study of selected sociological aspects). Social Sciences Research Centre. University of the Panjab, Lahore, 1960.

39. Sufi, M. H.
The Sufi Report. Village AID--Some Articles and Reports. Superintendent, West Pakistan Govt. Printing, Lahore, 1960.

40. Swenson, S. P.
"Educational and Scientific Reforms Affecting Agricultural Education and Research in Pakistan." Agricultural Education. Official Journal of Agricultural Education Society of Pakistan, Vol. I, No. 1, Dec. 1963.

41. Vandeberg, Gale L.
A Study of Professional Improvement for Extension Workers in Wisconsin. Thesis, Cornell Univ. 1952.

42. Zaki, Wali Mohammad
"Agricultural Education in West Pakistan--A retrospect." Agricultural Education. Official Journal of Agricultural Education. Society of Pakistan, Vol. I, No. 1, Dec. 1963.